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Contents.

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Summary.

THE CONTENTS of this 1906 Summer Issue are too voluminous adequately to summarise. Without sacrificing the up-to-date characteristics of the *C. & D.*, we endeavour to present to our readers special contributions, with illustrations, by which they will profit. Please refer to the contents opposite for a general indication of what is in this issue. We have made the entries as full as possible.

THE principal event of the week has been the meeting of the British Pharmaceutical Conference at Birmingham. Mr. W. A. H. Naylor completed his second term as President, delivering a suggestive address, papers were read and discussed, and it was agreed to meet in Manchester next year, with Mr. Thomas Tyrer, F.I.C., F.C.S., as President (p. 160).

IN connection with the Conference-meeting we present a pharmaceutical consideration of Birmingham, illustrated with portraits and some pictures of hospitals and shops. We also print an appreciation of Mr. Thomas Barclay, J.P., the Chairman of the Local Committee (pp. 139 and 148).

IT is occasionally stated by visitors to these shores that British manufacturers are much too conservative. As an illustration to the contrary we describe the factories of Messrs. Allen & Hanburys at Ware, Hertfordshire, which have reached gigantic proportions. The business was founded in 1715, so that there has been ample time to fossilise (p. 134)

PHARAOH'S SERPENTS' EGGS have so long been retailed in toyshops that sellers have not realised that their composition is a deadly poison. The fact has been brought home in Nottingham, where a boy died through sucking the eggs. The retailer of the commodity has been fined under Section 17 of the Pharmacy Act (p. 115). A question on the subject has been asked in Parliament (see Coloured Supplement).

INJUSTICES TO IRELAND are alleged to be so frequent that it is a pleasure to note something to the contrary. This year's Fairchild Scholar is a Dublin assistant. We give the results of the competition, including statistics of the marks, which show that Welsh candidates are ahead of our other nationalities in general knowledge, Scotch students qualifying for the wooden spoon (p. 110).

PERHAPS the most remarkable report of the week is that of the decision in the Bile Bean appeal by the Upper House of the Court of Session, Edinburgh. It will be remembered that the Bile Bean Co., and the partners thereof, sought the influence of the Court to prevent an Edinburgh chemist selling "Davidson's Bile-beans." Lord Ardwall refused the protection, and his judgment is sustained by the Upper House, the Judges therein considering that the Bile Bean business is founded on fraud. The judicial pronouncements are fully given in our Legal Reports. The company are to appeal to the House of Lords (p. 115).

OUR COLOURED SUPPLEMENT, devoted chiefly to advertisements of agencies, businesses for disposal and wanted, situations vacant and wanted, enables us to give in brief the items of news which come to hand after this white-paper section has gone to press.

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OUR EDUCATIONAL NUMBER is to be published on August 11. We invite those who are interested in educational matters to send to the Editor any information respecting local educational arrangements which are likely to be useful to students of pharmacy. We should like the issue to contain everything helpful to students, but the advertisement pages of the issue will be devoted to advertisements, and instructions respecting information of that nature should be sent to the Publisher, *C. & D.*, 42 Cannon Street, London, E.C.

E

Corner for Students.

Note.—The analytical exercises conducted by Dr. Leonard Dobbin will be resumed towards the end of September.

A SCHEME OF HOME STUDY.

By David J. Williams, F.C.S., Pharmaceutical Chemist.

Inorganic Chemistry (*continued*).

THE value of equations has been sufficiently impressed upon the student, and not by any means secondary in importance is the linking of practical and theoretical work. Every statement that can be experimentally proved according to the text-book should be tested. The simpler the methods used the better the results frequently, and the more one learns. To exemplify this statement, it may be said that a set of gas jars need not be used in the examination of the elementary gases. Large test-tubes and bottles do just as well. While working with crude apparatus the student will frequently learn the properties of many things which would remain hidden if he were supplied with better-finished pieces. It is noteworthy that some of the earlier chemists, although working with very clumsy instruments, obtained results which are startling in their accuracy to present-day scientists. Of course this is a tribute to their skill, but that skill was and may still be obtained by surmounting obstacles by not having the pathway "hedged with roses."

Most text-books set problems on the laws which have been previously mentioned, and it is urged that the solution of these should always be attempted. Especially is this the case with physics and physical chemistry. More is learnt by a well-directed sum than by pages of reading. While reading the text-book it is advisable to take up the official examination syllabus and make notes, laying stress on the special points there set down. There is an art in note-making. The exercise-book should not be converted into a sort of copy-book into which voluminous extracts from text-books are written. Unfortunately this is often the case, and students are only aware when asked a question that certain facts connected with it are in the note-book and know very little concerning the gist of the subject. The subject-matter should be read through several times with a view to understanding the fundamental points of it, then a note made in as concise a manner as possible *and in one's own words* in the exercise-book. This should then be checked by reading the subject-matter to see whether it accords with the ideas noted.

With regard to the amount of ground to be covered, it may be safely stated that the Minor candidate should have passed, or read up to the standard of, the South Kensington Advanced Certificate examination before he considers himself approximately ready to present himself for the qualifying examination. Even then, however, he will require a certain amount of coaching in the application of the subject to pharmacy.

The South Kensington Elementary and Advanced Certificates may be obtained by the average student in two years, and many have been known to sit for the third stage in their third year. It is better, however, during the latter period to apply one's knowledge of pure chemistry to the British Pharmacopœia. Each chemical should be taken and examined thoroughly, its tests of purity applied, and all facts that may be gathered concerning it learnt. For instance, under potassium bichromate the B.P. does not now give any details of the method of preparation, it being implied that this is generally known by chemists. The manufacture of chromates generally should, therefore, be read up. It should be satisfactorily settled in the mind as to what is the constitution of chrome ironstone, the reason for the presence of air, and the use of the potassium salt, and finally the subsequent use of acid. In short, the *râison d'être* should be known.

With regard to the requirements of the official syllabus, the wording points to an elementary knowledge of chemistry generally; but the term "elementary" is a word of very flexible usage, and indicates various degrees of thoroughness according to the *personnel* of various Boards. While it is necessary to mark out a clear course of study, it must be understood that studying merely for examination result should be strenuously avoided in this and all other subjects. This statement applies to a student at college, but it is still more important to the student at home. He should during this preparatory period attempt to obtain as wide a view of his subject as possible. There is no doubt that a large number of failures are due to the too hard-and-fast lines which are taken in the study of minor chemistry. A syllabus is only intended by examining bodies to indicate in a very general sense what direction will be taken in testing.

The student should earnestly endeavour to obtain from the study of chemistry such a way of thinking that he will be able to give some satisfactory explanation of most every-day phenomena. He should cultivate such an inquiring turn of mind that he may learn something of the composition of the cup he drinks from, of the glass he sees through, or of the walls of the house he lives in. It seems that questions are frequently asked in the examination which would verbally hardly find a place in the syllabus, but they are given so as to ascertain whether a man will give a sensible application and has reasoning power. His answer may in nine cases out of ten be a wrong one when viewed in a strictly technical sense, but his reasoning, whether good or otherwise, will soon be made evident.

In the details of study it is best to start with the elementary gases, such as hydrogen, oxygen, and nitrogen, and to develop the physical parts side by side as the necessity arises. It seems somewhat absurd to learn all about molecules and atoms, diffusion and occlusion, conservation and synthesis before the student has become familiar with the qualitative properties of such elements as the above-mentioned. Classification has certain advantages, it is true, and the placing of all the important physical hypotheses together in introductory chapters may be very systematic; but in books which are intended to be used as text-books it would be far better if these were developed parallel with the requirements of the case.

Special attention should next be paid to the study of the halogens, sulphur, phosphorus, arsenic, and their combinations. These substances are of such common occurrence in some form or other that they must receive great attention. Their combinations with hydrogen and the metals should be studied with much care, and all analogies tabulated.

It is wise to take up the study of metals early in the course—say, immediately after the halogens, or even after oxygen—and to keep their reading alternating with the non-metals, so that analogies and differences may be drawn up.

In the treatment of the metals it is wise to classify as much as possible. This, unfortunately, is not sufficiently done in text-books. If the student were to learn the chief-occurring ores of the various metals, as well as the properties of the latter, he would be able to give an answer with a fair amount of accuracy as to the method of extraction of a certain metal by appealing to some general method. For instance, if he knew that lead exists naturally as sulphide and also as oxide, he would, by appealing to his general knowledge of methods of extraction, and also the knowledge of the metals' properties, come to the conclusion that some form of limited oxidation would be most suitable for the separation of the metal from the sulphide, and likewise a method of reduction would be best for the oxide. This, with a little careful consideration, would be found to work successfully in almost all cases. It will thus be noted that it is not of prime importance that the student should know all about the dimensions of a furnace, its peculiar details of construction, or whether it has a deep or a shallow bed. He will, in attempting to remember such details, frequently lose sight of the main issue. The main object should be to know the chemistry of all such processes.

Again, while reading the preparation of the various salts, the student usually finds these put under the headings of the various metals without any apparent connection between the preparation of one or another. For example, take the preparation of chlorides; if the methods of obtaining these were arranged in general they would be found to fall under two heads—namely, action of hydrochloric acid on the carbonates and oxides, and the action of hydrochloric acid or chlorine on the metal. Carbonate preparations would again fall practically under one head—*i.e.*, the boiling of any soluble salt of the metal with a soluble carbonate.

Chemistry learnt on these lines will be found to be a science of reasoning, and not a mass of isolated facts having to be pigeon-holed in the brain until required.

English News.

Local Newspapers containing marked items of news interesting to the Trade are always welcomed by the Editor.

Brevities.

A new bacteriological laboratory, provided by Mr. J. F. Mason, M.P., was opened at the Rothamsted Experimental Agricultural Station on July 20.

The freehold Aniline Colour Works in Windsor Road, Hackney Wick, London, E., were sold at Tokenhouse Yard last week for 5,000*l.*, with possession.

The Local Government Board have approved the increase of the salary of Mr. Hobbs, dispenser to the Edmonton Workhouse of the Strand Union, to 170*l.* per annum.

At the Old Bailey on Tuesday, Cecil Spencer (26) was sentenced to five years' penal servitude for obtaining goods by false pretences from Mr. M. C. Roberts, chemist, Euston Square, and other persons.

Among the samples taken under the Food and Drugs Act in Warwickshire last quarter one sample of spirit of nitrous ether was found to be deficient in ethyl nitrite to the extent of 75 per cent. All the other samples were genuine.

It has been decided by the Council of the British Optical Association to appoint six members of the Association to attend the proposed Conference of the General Board of Opticians. The six members have not yet been selected.

Henry Frederick Swan, described as a student, was sentenced at the Newington Sessions-house, on July 24, to three years' penal servitude for obtaining 10*l.* by false pretences (begging-letters). He also admitted attempting to obtain 57*l.* from Sir William Crookes. He had passed as the son of Sir Joseph Swan.

At the Salop Assizes on July 19, Mr. Edward Bygott, solicitor, Wem, sued Mr. G. H. Morgan, chemist and druggist, Wem, for slander (the outcome of remarks made by defendant at a public meeting) and obtained 5*l.* damages and costs. A similar action against Mr. Morgan's son was settled by agreement on payment of 40*s.*

At the Cardiff Police Court on Friday, two girls, named Harriett Williams and Emma Crawley, were summoned for not wearing masks and gauntlets in the operation of wiring bottles of aërated waters at the works of Messrs. Barker & Elliott, Ltd. Defendants promised not to offend again, and the Stipendiary adjourned the case for six months.

At Shrewsbury on July 20, a sensation was caused by the arrest of Edward Roberts, assistant dispenser at the Shrewsbury Dispensary, on a charge of placing poisoned meat in a public thoroughfare with intent to destroy life. It appears that for several weeks past there has been an epidemic of dog-poisoning in the Shrewsbury district. The prisoner was charged on July 21 and remanded, bail being refused.

The King held an Investiture at Buckingham Palace on Tuesday, and the "Court Circular" reports that the following, among others, received the honour of knighthood: Mr. Edward Evans, Chairman of the Committeo of the National Liberal Federation; Mr. William Perkin, scientist; Mr. Alexander Simpson, medical man and scientist; Dr. Almworth Wright, pathologist and bacteriologist.

The new Bradford Directory shows that the number of retail chemists in the town has decreased in three years from 75 to 63, but the manufacturing chemists show a slight increase from 15 to 17, and analytical chemists have increased from 5 to 9. "Retail druggists" have increased from 12 to 27, and wholesale druggists from 4 to 7. Drysalters have decreased from 29 to 26.

At Bradford Police Court on July 19 Dr. Walford Bodie was fined 2*s.* 6*d.* and 10*s.* costs in each of three cases for employing children under the age of fourteen years between the hours of 9 P.M. and 6 A.M. The children appeared on the stage at the Palace Theatre as examples of "cures" of Bodie's bloodless surgery, and it was argued for the defence that there was no "employment," as the children had not been paid, but the Magistrates decided against this contention, agreeing to state a case for appeal.

Notice has been given by advertisements and posters of the intention of the West Ham Corporation to make a closing order for chemists, under the Shop Hours Act. Their shops must be closed on Thursdays throughout the year (except the Thursdays immediately preceding Good Friday and Christmas Day) at 2 P.M. Fifty-three shops will be affected. During the time allowed for objection (four weeks) two objections were received. Voting-papers are to be issued.

East Anglian Notes.

Mr. J. de Carle Smith represents the Town Close Ward in the City Council. On Saturday last he accompanied the Ward Liberal Association on its annual excursion and made a brief speech.

The East Anglian seaside resorts are fast filling with visitors, though the season does not reach its zenith until next month. Pharmacists are quite prepared and anxious to do more business. A chat with a Yarmouth chemist revealed the fact that the old-fashioned lengthy holiday *en famille* is fast becoming obsolete as far as that town is concerned.

Bad Food or Hygeia Salt.

In the Lambeth Coroner's Court on July 20, Mr. John Troutbeck opened an inquiry concerning the death of Percy Thomas Banham, aged twenty-one, late of Goldens Place, Kennington Cross. Ellen Banham identified the body as that of her son, and stated that he had excellent health until Tuesday morning, when, after getting up, he was obliged to return to bed, being seized with sickness. Death took place on Wednesday morning. The witness added that she herself was taken ill on Sunday night with similar symptoms to those of her son. Mrs. Griffen, who lived in the same house, had given her some of "Wills's Hygeia Salt," purchased at Boots' Cash Chemists. Both Mr. and Mrs. Griffen were also ill after taking some in water. Dr. Brown, assistant medical officer at the Lambeth Infirmary, said he was called to see Mrs. Griffen, and found her suffering from acute abdominal pains. She was vomiting, and was in a tremulous state. He at once suspected the taking of an irritant. In all, four persons had been seized with similar symptoms, and the only thing they had taken in common was the salt. Dr. Robert Salisbury Trevor, pathologist at St. George's Hospital, who made an autopsy, said that death was due to exhaustion from diarrhœa and vomiting, the result of severe inflammation of the stomach produced by an irritant poison. He was not prepared to say what that poison was. An inspector representing Messrs. Boots said a very large quantity of this salt was sold at their 300 branches, and they had never received a complaint about it. Dr. Trevor added, in reply to the Coroner, that the appearances he saw were compatible with food poisoning. In adjourning the case for six weeks to allow of an analysis of the stomach contents and the remainder of the salt, the Coroner gave Messrs. Boots' representative permission to take a sample from the tin.

Sheffield Notes.

Mr. J. M. Furness, J.P., chemist and druggist, took a prominent part in the Hope Valley Hospital demonstration on Sunday last.

The catalogue of the summer sale of Messrs. John Walsh, Ltd., drapers, furniture-dealers, electricians, and a dozen etceteras, now to hand, presents a feature of interest to local pharmacists by reason of the page devoted to drugs, perfumery, and toilet-articles. The department has been robbed of its former glory of a separate and special inset, and has to be content this year with a single modest page towards the end of the publication. Among the items are the following:

> Paget's hygiene salts, 6*d.* tins at 3½*d.*; bicarbonate of soda (answering all official requirements), 7 lb. for 1*s.*; boracic acid, 2*d.* per lb.; refined borax, 2*d.* per lb.; Parrish's chemical food, 1-lb. bottles for 7½*d.*; Blaud's pills, prepared from the official formula, 1*s.* size reduced to 4*d.*, three for 11*d.*; Ashton & Parsons' homœopathic tinctures and pilules, 1*s.* size for 3½*d.*; Clarke's blood-mixture, 2*s.* 9*d.* size reduced to 1*s.* 10½*d.*; Doan's backache and kidney pills, 2*s.* 9*d.* boxes for 2*s.* 1½*d.* per box; Liebig's meat and malt wine, 4*s.* 6*d.* size for 2*s.* 4*d.*; lanoline, 6*d.* tubes for 3*d.*; and Chesebrough's vaseline, 1*s.* size for 4*d.*

Toilet-requisites figure largely in the list, and the bottom corner of the page is graced with a note that thirty (only) quarter-plate cameras are offered at less than half-price.

The Anti-Co-operative Movement.

The St. Helens and District Traders' Association have instituted a profit-sharing scheme with their customers, as a

set-off to the co-operative movement, which is very strong in that district. The scheme, as described by Alderman Green, President of the Association, at a luncheon held on the annual excursion of the Association, has advantages which co-operative societies do not offer. While stores customers have only one establishment and one stock to choose from, under the traders' scheme people may buy in practically any shop in St. Helens, seeing almost all the shopkeepers belong to the Association. Each customer is to receive at the end of the quarter a share of profits at the rate of 2*s.* in the pound without having to "pay through the nose for it." The idea is that the amount of the purchase should be written on the receipt and retained by the customer, who would take it and any other receipts (obtained from Association traders) to the central office any time before the end of the quarter. A copy of the receipt would be kept by the retailer for reference, but that would be all he would be required to do in the matter. Each trader would buy as he does now, would sell at his own prices, and the same friendly rivalry would exist as at present. No one but the Secretary would have any idea of the amount of business done by individual traders; the accounts of the Association would be kept as private as a banking account. Customers who do not wish to wait for three months may receive their share of the profits at the time of purchase as a discount. On the other hand, should they desire their money to accumulate they may leave it on deposit with the Association at interest. The Secretary of the Association is Mr. J. Cottam, 13 New Market Place, St. Helens.

Child Poisoned by "Tabloid" Easton's Syrup.

At the Wandsworth Town Hall on Saturday, July 21, Mr. John Troutbeck held an inquiry concerning the death of Eileen Ada Hill, aged eighteen months. Her father (Mr. G. H. Hill, manager to a mantle manufacturer) stated that six years ago, before his marriage, his wife purchased a bottle of tabloids containing iron and strychnine, but did not use them. Since their marriage the bottle had been kept in a cupboard under the washstand in their bedroom, and within reach. They had three children, but they had not touched the bottle to his knowledge. On Wednesday, when in the City, witness was telegraphed for, and on reaching home found his daughter dead. Witness was not aware that the tabloids contained strychnine. The Coroner said the label read as follows:

> Iron phosphate with quinine and strychnine, compressed. Easton syrup. One fluid drachm, 3.5 c.c. of the B.P. syrup. One to be taken as ordered by the physician.

Then, added the Coroner, the word "Poison" was printed across the label in faint red type, which was almost imperceptible. Jessie Mackintosh, general servant, deposed to finding the child in its mother's bedroom sucking a tabloid. Noticing a green stain on the child's pinafore she took her down to her mother. Meanwhile the child had become sleepy, and began to twitch, and she clenched witness's hand tightly. On looking at the tabloid bottle and seeing the word "Strychnine," she told Mrs. Hill, who at once sent her for a doctor. The bottle was on the bedroom floor, and the tabloids were strewn about. Death took place in about an hour. Dr. John Bent, Southfields, stated that the child was in violent convulsions when he was called in, and had all the characteristics of strychnine poisoning. He thought death was due to spasm of the heart from strychnine poisoning. One tabloid contained $\frac{1}{32}$ grain. Dr. Freyberger, who made an autopsy, said the child must have taken more than one tabloid, as he found several pieces of the sugar coating in the stomach. Mr. Frank Curry, deputy sales manager to Messrs. Burroughs Wellcome & Co., the makers of the tabloids, identified the bottle as one issued by his firm. The Coroner asked why a distinctive bottle, such as a poison-bottle, was not used for such medicines, whereupon witness explained that these tabloids are generally supplied on medical prescription. The word "Poison" was printed in red across the label. It is not customary to use poison-bottles for internal medicines. That would alarm people.

The Coroner: It would be better to alarm people than to run risks. One knows, too, the meaning of the words, "One to be taken on the advice of the physician." One scarcely ever seeks advice in taking such things.

Witness said his firm sold the tabloids wholesale only, and chemists would sell them according to the provisions of the Pharmacy Act. Each bottle contained twenty-five tabloids.

The Coroner: Yes, sufficient strychnine to kill four adults!

A Juror: The word "Poison" should certainly be in larger type.

In summing up, the Coroner said this was not a patent medicine, but the Government reaped such an enormous revenue from the sale of patent medicines that he was afraid the Chancellor of the Exchequer would be alarmed if the jury interfered too much in such matters. Tabloids like those produced had a very large sale, and the suggestion as to taking them under the advice of a physician was no protection at all. No doubt it was dangerous for the public to take such things without advice, but the public were in the habit of doing dangerous things. He must say, however, that he did not think the public were such fools as Messrs. Burroughs & Wellcome's representative would make them out to be. If the word "Poison" was alarming, why should not the truth be known, instead of people living in a Fool's Paradise? The case had revealed a very great danger, but he supposed it could only be called an accident.—The jury returned a verdict of accidental death, and added that they did not think the label sufficiently indicated the danger. They expressed their sympathy with the parents.

Midland Notes.

Stone Agricultural Show has come and gone. With it a smart impetus was given to the local chemists' trade.

An apprentice has had his indentures cancelled by the Walsall Magistracy because his master sent him to make bets with a racing tipster.

It is an open secret that it is hoped that the King will open the buildings which the Conferencers inspect this week, but it is feared that the date will not be earlier than 1908.

Blight in the hop-fields at Worcester has become so serious that enormous quantities of soap and quassia are being used, the latter having gone up 40 per cent. in price owing to the great demand.

The local chemists on Conference bent paid very good prices for services of young qualified helpers who came to their assistance during the course of the week and let them off from business cares until the Friday.

The Society of Chemical Industry is to hold its annual meeting in Birmingham next year, and in view of this three secretaries have been appointed to act on behalf of the local section—viz., Mr. O'Shaughnessy (Tyburn), Mr. F. H. Alcock, and Dr. Findlay.

According to the local Press, Birmingham is gaining an unenviable notoriety in the matter of substitution. The operator gets original packages of pills and refills them with a different make. This method extends to table-sauces, whisky, brandy, and other similar commodities.

A wealthy chemical-manufacturer had a confidential coachman who always asked, "How has business been to-day?" The invariable answer was, "I am losing money fast," and came so persistently that at last the coachman said, "You must have been worth a —— of a lot of money before you started in business." His master was the founder of a local firm which shows no sign of failure, and he died worth a huge fortune.

The *C. & D.* note on the chemicals used in this district and which are distributed by channels other than pharmacy tempts a brief enumeration of them. *Acids:* Acetic, boric, carbolic, citric, fluoric, muriatic, nitric, oxalic, pyrogallic, sulphuric, and tartaric. *Other Chemicals:* Ammonia, arsenic, alum, borax, bluestone, glycerin, iodine, sugar of lead, corrosive sublimate, nickel salts, potassium salts, platinum chloride, sodium salts, sulphur, and zinc salts. Numerous pigments are much used. *Gums:* Acacia, benzoin, copal, damar, dextrin, guttapercha rubber, mastic, sandarac, lac, and tragacanth. *Oils:* Numerous, especially lard oil, the vegetable and other animal oils. Rouge, colcothar, putty-powder, sandifer, cryolite, sodium nitrate, Carnauba wax, etc. Argol is used for polishing.

Second Thoughts.

The breaking of three plate-glass windows in the shop of Mr. R. J. Douglass, chemist, Stoney Stanton Road, Coventry, took place under somewhat remarkable circumstances, which

were explained to the Coventry Magistrates on July 21. Charles Montgomery, described as a miner, was charged with wilful damage, estimated at 6*l*., but the sum was reduced to 4*l*. 19*s*. so that the case might be dealt with summarily. Prisoner took a prescription to Mr. Douglass to be made up. Some little alteration was suggested, to which prisoner assented. The medicine was then made up, and prisoner paid for it, but a few minutes later came back and said it would not do, and that he wanted his money back. Prosecutor declined, as he had made up the prescription as requested, whereupon prisoner went out and deliberately smashed the windows. Prisoner admitted to the constable who arrested him that he broke the windows because he could not get what he wanted. The Chairman described the damage as malicious and unjustifiable, and prisoner was fined 40*s*. and ordered to pay the damage, or, in default, a month's imprisonment.

Drug-contracts.

The supply of drugs for the ensuing half-year to the Royal Portsmouth, Portsea and Gosport Hospital has been given to Messrs. John Richardson & Co., Ltd., Leicester.

On Monday, at the meeting of the Marylebone Guardians, the Infirmary Visiting Committee recommended :

> That, with the consent of the Local Government Board, for the future tenders for drugs and druggists' sundries be not advertised for, but that firms be invited to send in their current price-lists, with information as to what discount they will be pepared to allow off the lists in the event of goods being ordered from them by the Guardians.

The recommendation was adopted.

Cricket.

We are indebted to Mr. C. E. Sage, Principal of the Metropolitan College of Pharmacy, for the subjoined photograph of the College Cricket-team, 1906, taken just before Mr. Sage took over the College.

Back row (right to left): J. H. Armstrong, D. J. Williams (Hon. Sec.), J. H. Williams, J. E. Bussey, H. C. Gray, A. S. Birkbeck, R. Fletcher.
Middle row: J. M. Powell, F. Brown, J. H. Sadler (Captain), W. E. Wright (Vice-Captain), W. Barlow, C. Breuninger.
Front row: M. E. Parson, T. E. Hirst.

Sport.

The employés of Messrs. A. & F. Pears, Ltd., held their nineteenth annual athletic meeting at Isleworth on July 21. The winners were : 120 yards handicap, S. Handisyde; one mile bicycle handicap, H. Williams; 440 yards handicap, J. Voller; one lap obstacle race, J. Woolgar; 880 yards handicap, H. Gibson; one mile handicap, H. Gibson; 200 yards veterans' handicap, J. Ward; two miles bicycle handicap, A. H. Green; invitation tug-of-war, Isleworth Police beat the L.U.E.T. (permanent way) by 2 to nil; one mile walking handicap, H. Gibson.

The members of the Leicester Pharmacy Athletic Club took part, on Thursday, July 19, in a cricket-match which was productive of rather prolific scoring, no fewer than 304 runs being scored in the short afternoon's play. It was at Aylestone Old County Ground against Aylestone Park. The latter ran up a score of 123, which seemed a formidable total to beat, but the chemists set about their task to such an effect that their total was 181 ere they were dismissed. Chawner was in most excellent form, making 72 and not out at the finish. Pearson (18), Martin (17), and Marfitt (15) were the other principal contributors to the score. The pill-men thus won by 58.

Fairchild Scholarship and Prizes.

Mr. A. E. Holden, Secretary to the Committee of Trustees, sends us the results of the second Fairchild competition for the scholarship and prizes, which was held on June 27 at the five centres under the supervision of the following gentlemen : Cardiff, Mr. Albert Hagon; Dublin, Mr. W. F. Wells; Edinburgh, Mr. Peter Boa; Manchester, Mr. James Grier; and London, Mr. T. W. Davies. The various papers were assessed by Mr. Peter Boa (Practical Pharmacy and Prescription Reading), Mr. Albert Hagon (Business Knowledge), Mr. J. W. Bowen (Materia Medica), and Mr. William Kirkby (Chemistry). Mr. W. F. Wells acted as referee in the event of equality in marks, which eventuality, however, did not arise. After all the papers were adjudicated it was found that Mr. George Thompson Wilson, Dublin, wins the scholarship (50*l*.) with 424 marks out of a possible 500. The second best candidate, Mr. James Harry Smith, Manchester, wins the English prize (5*l*.). This is the second time Manchester has supplied the runner-up. Mr. James Christie, Musselburgh, wins the Scotland prize (5*l*.); Mr. William Kirkwood, Belfast, wins the Ireland prize (5*l*.); and Mr. Gomer Williams, Gowerton, Swansea, wins the Wales prize (5*l*.). The number of entrants was 51, and those who actually competed numbered the same as last year, viz., 44 (England 33, Ireland 5, Scotland 3, and Wales 3). Last year there was one lady candidate, this year two. Of the competitors 25 per cent. made over 75 per cent. marks in all subjects. On the individual subjects, the candidates representing the different countries made the following percentages :

—	Materia Medica	Business Knowledge	Chemistry	Pharmacy and Prescription Reading
England ...	70 5	62.3	60.6	62.6
Scotland ...	72.6	49.6	50.6	54.2
Ireland ...	76.6	63.6	52	56.6
Wales ...	73.3	62.3	63.2	68.6

Mr. G. T. Wilson, the Fairchild scholar, is registered as a student of pharmacy at Clonavon, Ballymena, and was apprenticed to Mr. James Acheson of the same town. Mr. Wilson is now with Mr. W. F. Wells, ex-President Pharmaceutical Society of Ireland, 20 Upper Baggot Street, Dublin, and proposes to enter on his studies in October next. As far as we are aware Mr. Wilson is the first Irish student to gain any pharmaceutical scholarship, and the Fairchild one is the only scholarship open to Irish students as such. Mr. J. H. Smith is registered as a student of pharmacy at Burnley, and apprenticed to Mr. E. J. Catton of that town. He is at present with Mr. C. F. W. Thorpe, Manchester. Mr. James Christie is registered as of Keith, and was apprenticed to Mr. James Pirie, Keith, but is now with Mr. Robert Robertson, Musselburgh. Mr. William Kirkwood is registered at Belfast, and apprenticed to Mr. I. W. Nicholl, 25 High Street, of that city. Mr. Gomer Williams is registered at Swansea, and was apprenticed to the late W. George there, but is now with Messrs. Milton & Son, Exeter.

Mr. G. T. Wilson.

An International Dinner.

On Thursday evening, July 19, the senior members of the British staff of Messrs. Parke, Davis & Co. entertained the General Manager (Mr. E. G. Swift, Detroit), the Manager of the London Branch (Mr. F. M. Fisk), and the Manager of the St. Petersburg Branch (Mr. D. A. Ruffmann) to dinner

in the Criterion Restaurant. Mr. Harry Hickey, chief of the London travelling service, presided, the vice-chair being occupied by Mr. H. J. Fisk. After the loyal toasts had been duly honoured, Mr. Hickey proposed the toast of "Parke, Davis & Co. and our Guest," Mr. E. G. Swift replying in a genial speech. Mr. Holderness proposed "the London Branch," Mr. F. M. Fisk replying, and Mr. R. C. Brown proposed "Foreign Branches," coupled with the name of Mr. Ruffmann, who, in his reply, spoke of the immense possibilities for trade in the Russian Empire. During the evening Mr. H. J. Fisk rendered several exquisite banjo solos, and songs were sung by Messrs. Astill, Bowden, Elias, Jamieson, and Maben, the accompaniments being played by Mr. G. R. H. Clark.

Irish News.

Local newspapers containing marked items of news interesting to the Trade are always welcomed by the Editor.

The Haslett Statue.

The Belfast statue to Sir James Haslett will not be unveiled for some months yet. The site has been chosen in front of the new City Hall.

Drug-contract.

Messrs. Boileau & Boyd, Ltd., chemists, Dublin, have been appointed to supply drugs and medicines to the Lismore Union for the ensuing year.

Loitering at a Druggist's.

At Belfast Police Court on July 23, John Bonner was sentenced to one month's imprisonment for loitering with intent to commit a felony at the premises of Messrs. Brown & Co., druggists, 192 North Street.

"A Source of Blackmail."

At the Nenagh Board of Guardians the Clerk read a letter from Messrs. Hunt & Co., Dublin, threatening legal proceedings unless they got a cheque for 13*l.*, due for empties. The Clerk said he had made inquiries at the respective dispensaries, and could find no tidings of these empties. After considerable talk it was decided to write to the Local Government Board on the matter.

Personal.

Mr. H. C. Meyrick, L.P.S.I., has given up his pharmacy at Shop Street, Drogheda.

Mr. J. Tyrie Turner, M.P.S.I., Carrick-on-Suir, has added the business of an optician to his concern.

Miss Alice Mary Barry has been appointed compounder of medicines at the Cork Workhouse at a salary of 100*l.* a year.

Messrs. J. J. McHugh and R. J. Eccles, pharmacists, Athy, have agreed to keep open their medical halls on weekdays and Sundays during certain hours.

Mr. J. S. Scott, pharmaceutical chemist (late with Messrs. Grattan & Co., Ltd., and Messrs. Davidson & Hardy, Belfast), has purchased from Mr. J. C. C. Payne his entire interest in the Holywood Medical Hall, which has been established since 1863.

Tampering with Medicine-bottles.

At Monaghan Board of Guardians on Monday, July 23, Dr. R. A. Crawford, medical officer of Castleshane Dispensary District, produced a bottle which he said should have contained liq. morphinæ hydrochlor., but urine was in it. After discussion it was resolved that the contents of the bottle be divided into three parts, one to be given to Dr. Crawford, another sent for analysis, and the remaining part to be kept by the Clerk; and when the result of the analysis is ascertained the whole matter will be investigated.

How Phosphorus was Stored.

Last week the Cork Technical Institute had several narrow escapes from destruction by fire. It appears that some phosphorus for use in the chemical laboratory was placed in a tin case, and when this was opened the matter around the phosphorus took fire. Mr. McNamara, an assistant teacher, grasped the canister and rushed with it into the street. On the way the molten phosphorus dropped, and a series of small fires took place, which were quickly extinguished. On the succeeding night a number of smaller fires broke out, alleged to be due to the same cause.

The Poisons and Pharmacy Bill.

At the meeting of the Irish Cattle Traders' Association on July 19, Mr. Wm. Field, M.P. (President of the Association) in the chair, the Secretary (Mr. Sherlock) said the interests of the Association in the Poisons and Pharmacy Bill now before the House of Commons arise through one clause, which gives Irish County Councils power to register unlicensed traders to sell poisonous dips for sheep if the necessities of particular localities required it. The following letter was read from Mr. Wm. O'Brien, M.P.:

> I am in entire agreement with the views of the Irish Cattle Traders' Association as to the effects of the Pharmacy and Poisons Bill in Ireland, and will do anything in my power to support it, although any serious opposition at this late stage of the Session would leave it but a slender chance of passing.

The Committee of the Association resolved to appeal to Irish members who have blocked the Bill to withdraw their opposition.

French News.

(From the "C. & D." Paris Correspondent.)

The Fire at Maurel & Prom's oil-mills at Bordeaux last week caused damage estimated at three million francs (120,000*l.*). Some 1,200 tons of oil and 2,000 tons of peanuts were stored in the buildings.

Death of Dr. Brouardel.—The death took place at Paris, on Monday, July 23, of Dr. Brouardel, the well-known professor of forensic medicine. He was born in 1837 at St. Quentin and took his medical degree in 1873. Since then his career has been particularly well filled and brilliant. In 1873 he was appointed head physician of the St. Antoine Hospital at Paris, and six years later became professor of forensic medicine.

Monument to M. Grimaux.—On Sunday last, at Rochefort-sur-Mer, the inauguration of a monument took place in memory of M. Grimaux, formerly Professor of Chemistry at the Ecole Polytechnique, Paris, and author of a well-known book on Lavoisier. M. Grimaux was one of those scientific men who suffered through the support he gave to the Dreyfus case, so that the inauguration of the monument came at an opportune time, following, as it did, the day of the rehabilitation of that officer.

The New Pasteur Medal.—The designer of this fine medal has supplied me with a photo of the first one struck.

A note concerning this medal was published in a recent issue of the *C. & D.*

X-rays as a "Hair-restorer."—Professor Bouchard read at the last meeting of the Academy of Science a curious communication from Professors Humbert and Marquéz, of the Montpellier Faculty of Medicine, who have made a speciality of *x*-ray treatment. One of them observing that his almost white hair and beard were apparently returning to the pristine colours of his youth, decided to carefully note the effect on others. On a white-moustached patient, who was being treated for lupus, the protective mask was not carefully adjusted. The hairs thus exposed to the direct action of the *x*-rays fell off, but when they grew again they were black. The same effect was noticed on the hair, so that the patient when cured of his lupus presented the appearance of an older or younger man according to the profile exposed to the spectator. Some photos of this case and others were presented.

Canadian News.

Obituary.—A well-known chemist of Woodstock, New Brunswick, died on July 4, in the person of Mr. Julius T. Garden. Mr. Garden will be much missed, as he was an active political worker of Conservative leanings and a Past-President of the Board of Trade of Woodstock. He was one of the delegates to the Chambers of Commerce of the Empire meeting held two years ago in Montreal.

Pharmaceutical Society of Quebec.—At the first meeting of the new Council of this Society the following officers were elected: President, Mr. John E. Tremble (Montreal); Vice-Presidents, Messrs. A. E. DuBerger (Waterloo) and Alfred L. Jollicœur (Quebec); Treasurer, Mr. W. H. Chapman (Montreal). Messrs. Joseph Contant and Victor Levesque were elected members of the Council, to replace Messrs. R. W. Williams and Edmund Giroux, jun., who had resigned. Mr. E. Muir was appointed Secretary-Registrar, with Mr. E. Giroux, jun., as assistant.

Not Satisfied.—The case of W. B. Grant, who claimed to be a qualified chemist in British Columbia, was recently considered by the B. C. Pharmaceutical Association. Mr. Grant claimed that he had been sixteen years in the drug-trade, and produced a neatly printed pamphlet containing many testimonials, from among others Dr. A. Conan Doyle and Dr. Herbert J. Scharlieb, as to his efficiency as a dispenser. Grant had been selling carbolic acid in Victoria, B.C., and had not the Association taken a lenient view of his case at a recent Council-meeting, he would have been prosecuted, for he failed to produce legal qualifications. Now he has to get proof from England that he has the qualifications to pass the Preliminary and to be registered as an apprentice. It would save trouble to all intending emigrants to British Columbia to qualify before leaving home.

C.W.D.A.—The annual meeting of the Canadian Wholesale Druggists' Association was held at the Gananoque Inn, Ontario, on June 29, when the following officers were elected for the ensuing year: Hon. President, Mr. H. H. Lyman; President, Mr. C. W. Tinling; Vice-Presidents, Messrs. W. S. Elliot, H. W. Barker (St. John), and E. D. Martin; Treasurer, Mr. W. C. Niblett; Secretary, Mr. J. Mattison; Committee of Management, Messrs. T. M. Henderson, G. H. Clarkson, L. J. Mylius, W. C. Niblett, W. B. Skinner, W. W. Bole, and A. B. Evans; Executive Committee, Messrs. C. W. Tinling, Chas. McD. Hay, W. S. Elliot, A. Lyman, F. H. Bole, and J. Mattison. After the conclusion of the business a day was spent in excursions among the Thousand Islands. On the invitation of Mr. Thomas M. Henderson, of Vancouver and Victoria, it was decided to hold the next meeting in one of the cities named.

Iodine Cure for Lung Tuberculosis.—Such marked and striking success has been obtained by the new "iodine cure" for consumption, which has been submitted for the consideration of the medical profession by Dr. George A. Brown, of Montreal, physician to the Montreal Dispensary, that steps are being taken to give a demonstration of cases before the British Medical Congress, which meets in Toronto in the latter part of August. The method employed by Dr. Brown is the injection of a mixture in which iodoform is held in suspension, and the preparation is made according to the following formula:

Precipitated iodoform, which contains 97 per cent. of iodine	100 grains
Powdered gum acacia	25 grains
Glycerin	200 minims
Carbolic acid	5 minims
Boiled distilled water	300 minims

Dr. Brown has employed this treatment for twelve years, first for the cure of tubercular joints, and more extensively for the tubercular condition of the lungs, and states that, in addition to the local effect, it has a constitutional action. The injection is performed under the usual conditions for securing asepsis. The dose injected is from 8 to 24 grains, according to the disease and the condition of the patient. It may be well to use smaller doses and repeat frequently. Dr. Brown now uses 12 grains every two weeks.

Colonial and Foreign News.

Patents in Switzerland.—A Bill was laid before the Federal Council on July 17 containing proposals for a total revision of the Swiss Patent-law, and also for the extension of patents to discoveries in chemical-industry. It is confidently expected that it will pass.

Sulphuric Ether in Switzerland.—A decree of the Swiss Federal Council came into force on July 5, imposing a special duty on sulphuric ether (No. 1,062 of the tariff), in addition to the import-duty proper, of 10 francs per 100 kilos. (gross weight). The new duty is to countervail the internal taxes levied on the alcohol employed in the domestic manufacture of sulphuric ether.

Surgical Dressings.—The commercial expert attached to the German Consulate at Constantinople calls attention to the market there for cotton surgical dressings, in which Italy has lately been successfully competing with an exceptionally moderately priced article. The following prices have been obtained: "Coton hydrophile," 1.55f. per kilo.; "coton phénique," 1.75f.; "coton borique," 1.75f., f.o.b. Constantinople, packing free, payment at four months. The report was written on March 22, since when there has been a rise of 15 per cent. in Italian quotations.

Italian Olive Oil.—In his annual report on the trade of the province of Lecce for 1905, H.M. Consul Cocoto states that the olive-oil crop of 1905 was good, and the prospects for the current year's crop are very promising. It is exceptional, he says, for two successive years to yield two good crops. According to the Customs and Chamber of Commerce records the exports to foreign countries were as follows: 1905, 1,048 tons; 1904, 1,702 tons; 1903, 1,172 tons; 1902, 2,126 tons; and 1901, 3,395 tons. Last year the United Kingdom received 429 tons, compared with 849 tons in 1904. To home ports 9,025 tons were shipped, a decline of 1,620 tons as compared with the previous year.

Poisoning in Hamburg.—Dr. Rothfuchs, of the Port Hospital, Hamburg, has given statistics of the poisons used by those who attempted suicide. Out of 54 persons, 9 used hydrochloric acid, 2 phosphorus, 8 oxalic acid, 1 Schweinfurt green, 1 arsenic, 5 carbon monoxide, 3 morphine, 2 atropine, 1 chloroform, 2 corrosive sublimate, 1 acetate of alumina, 2 sal ammoniac, 1 strychnine, 9 lysol, 1 quinine, 1 opium and sublimate, 1 sulphuric acid, 2 starch blue, and 1 lapis infernalis. Lysol, which has only been included in the statistics since 1904, was used in 15 per cent. of the poison cases in the hospital in question last year. Three of the persons poisoned with it have died.

Russian Items.—The Joint Stock Chemical Co.'s factory at Odessa was burnt down on July 2 as a result of spontaneous combustion. The damage done amounted to 15,000*l*. —The "Commercial and Industrial Gazette" says that the Minister of Finance has allowed the export, with the return of the Excise, into Finland through the St. Petersburg Customs by the Finnish railway, of eau de Cologne and other articles of perfumery which are prepared from spirit the Excise duty on which has been paid.—The "Pharmatz. Journal" announces that the German house of Kalle & Co., Ltd., is beginning operations in Russia by taking over a chemical-factory at Warsaw. The business will be carried on in combination with other factories for the production and sale of chemicals and pharmaceutical products. For the development of its Russian project the company has allocated 3,500,000m.—The same journal reports the death of Eduard Hirschon, of Dorpat, who had a distinguished career as pharmacist. Born in 1847, he passed his examination in 1874 as dispenser, in which year he got the Suvaroff gold medal for his investigations on "Gum Arabic." He passed his examination as Magister in Pharmacy in 1877, when he gave a paper on the chemistry of rosin, gum, and balsam. He devoted himself to applied chemistry, and kept up a large correspondence with German, Swiss, and English *confrères*.—The Governor of Moscow called the local Rabbi to a recent conference in regard to the renewed threats of a strike among pharmacists and asked him to use all his endeavours to dissuade his co-religionists, who form the major part of the pharmacists in the town, not to strike.—

South African News.

(From our own Correspondents.)

Note.—"The Chemist and Druggist" is regularly supplied by order to all the members of all the Pharmaceutical Societies in British South Africa, viz.:

South African Pharmaceutical Association.
Pharmaceutical Society of Cape Colony.
Natal Pharmaceutical Society.
Transvaal Pharmaceutical Society.
Rhodesia Pharmaceutical Society.
Northern District Chemists' Association.
Pharmaceutical Society of Orange River Colony.

Cape Colony

Chemists' Licences.—The question of chemists' licences is still being ventilated in the local Press. It is pointed out on behalf of the chemist, with a considerable amount of force, that while chemists have to pay a 5*l.* licence to trade as such and a further 3*l.* to trade as a general dealer, the general dealer pays 3*l.* only and may sell medicines, groceries, or anything else. The chemists contend that, to be just, the sale of medicines should at least be restricted to them.

Warned.—At a meeting of the Medical Council held at Cape Town on July 3, Dr. George Thomason, of the Cape Sanatorium, Plumstead, was charged with improper and unprofessional conduct in that he advertised the sanatorium in two South African periodicals. After hearing Dr. Thomason's explanation, the Council came to the conclusion that Dr. Thomason had unwittingly infringed the regulations regarding advertising by registered practitioners, and warned him against such advertising in future.

The Tariff Working.—A firm of wholesale manufacturing chemists in Cape Town have issued the following circular letter to their customers:

> As the new Customs tariff has now been ratified, which means an increase of 5 per cent. on all goods imported, we have decided to retain our present price-list and to give a discount of 5 per cent. and 5 per cent., instead of three 5 per cent. as formerly. This will save us the trouble and expense of advancing every article in the list 5 per cent. With reference to goods (including patent medicines) which contain spirit in any proportion over 3 per cent. proof, the duty is now 20*s.* per gal., and the prices of these lines have been increased proportionately. With reference to Colonial-made Dutch medicines, they have had to be increased slightly owing to the excise on Colonial spirit.

They further intimate that a revised price-list will be forwarded as soon as ready.—We reproduce a photograph of

the new premises at East London recently acquired by Messrs. C. E. Gardner & Co., Ltd., wholesale chemists. The acquisition of these larger premises has been rendered necessary on account of increasing business and also, as Mr. A. G. Doble, one of the directors, tells us, to enable the company to lay down bigger plant for the manufacture of pills and galenicals rendered imperative by the new Customs tariff. The pill-factory will be under the control of an experienced pill-man, and that department and the laboratory will be under the supervision of qualified chemists. Messrs. Gardner hope to be able to turn out pharmaceutical preparations equal to those that previously have been imported and at prices to meet all competition.

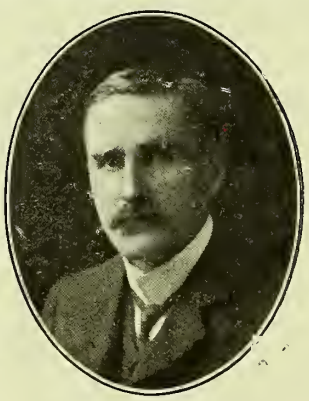
A Hindu Quack Doctor was charged at the Cape Town Police Court, on June 29, with contravening the Medical and Pharmacy Act by practising as a doctor.—Evidence was given to the effect that a European woman, who was suffering from a bad leg, went to the accused for treatment. Accused pulled out three beans, with which he performed some mystic rite, and chanted an incantation. He then gave plaintiff some lotion, which she used, but it made her leg very much worse. Accused charged her 25*s.* for this treatment.—A remand was granted.

Personal.—Mr. E. M. Ashly, representing in South Africa, among other firms, Messrs. Winsor & Newton, Ltd., and Messrs. W. Butcher & Sons, has gone home on a business-trip. His address while in England is care of Messrs. Geo. Waterston & Sons, 8 St. Bride Street, London, E.C. Mr. Ashly is well known in South African drug-circles, and has represented British concerns in the country for over six years.—Mr. J. D. Hurst, representing Messrs. Southall Bros. & Barclay, Ltd., Birmingham, returned from South Africa in the *Kildonan Castle* last week. Mr. Hurst made many good friends during his tour in the interests of his firm, some of whom journeyed to the docks to see him off.

Transvaal.

An Unfruitful Burglary.—On June 16, the shop of Mr. R. White, chemist, Kimberley Road, Bertramstown, was broken into and the safe removed. On the following morning the safe was found, intact, on a piece of waste ground in the vicinity. An unsuccessful attempt had been made to blow it open with a detonator, but it was undamaged, and the contents, valued at 170*l.*, were undisturbed.

Pharmaceutical Leaders.—We give herewith the portrait of Mr. Rupert Quinton Leeds, the new President of the Pharmaceutical Society of the Transvaal. Mr. Leeds has been in the employment of Messrs. Lennon, Ltd., ever since he entered the drug-trade. He is now the managing director of the whole of the businesses of the company in the Transvaal—wholesale and retail. Seeing that Mr. Leeds is only twenty-eight years of age, this speaks well for his ability, business energy, and integrity. His election to the presidency is very popular among chemists throughout the Colony.—Mr. Alexander Rennie, the new Vice-President, is a Scot. He served his apprenticeship with Messrs. Davidson & Kay, of Aberdeen. He is a "Duncan's man," and after qualifying (in 1892) he was for two years with Messrs. J. & H. Mathews, of Queen's Gardens, Bayswater, before going out to Messrs. P. J. Petersen & Co. Mr. Rennie was appointed retail manager at Messrs. Petersen's Johannesburg branch, and he went through the last Boer war, holding a commission in the Army. Since then Mr. Rennie has been in business for himself in Pritchard Street, Johannesburg. He is one of the founders of the Transvaal Society, and has been as zealous in the interests of chemists generally as he is in his own business.



Mr. R. Q. Leeds.

Legal Reports.

High Court Cases.

The Bile Beans Appeal.

In the Court of Session, Edinburgh, on Friday, July 20, the Judges of the Second Division delivered judgment in the reclaiming note lodged by the complainers against Lord Ardwall's interlocutor in the action by the Bile Beans Manufacturing Co. and partners thereof against George Graham Davidson, chemist, Edinburgh. The action was in respect to the use of the title "Bile Beans" which the respondent had used to describe pills put on the market, and the complainers sought to stop this by interdict but failed, Lord Ardwall giving judgment against them. They appealed, and the case was argued by counsel on each side a few weeks ago, when their Lordships reserved judgment, which is here appended :

The Lord Justice Clerk said the evidence in this case disclosed the history of a gigantic and too successful fraud. The two complainers, who asked an interdict against others, did so to protect a business which they had brought to enormous proportions by a course of lying which had been persisted in for years. The scheme they formed was to delude the public into the belief that a valuable discovery had been made of a medical remedy hitherto known only to certain savage tribes in a distant part of the world, but known to them for ages; and that the medicine had been prepared by the aid of "the implements of modern scientific research," and that the best laboratories and most modern plant had been requisitioned for compounding "this wonderful Australian vegetable substance." The place of the discovery, the mode of the discovery, the discovery itself, the instruments of research, the laboratories, were all deliberate inventions without any foundation in fact. The story was that a certain Charles Forde, who was declared to be a skilled scientist, had, while in Australia, noted the fact that the aborigines were markedly free from certain bodily ailments, and that by patient research and exhaustive investigation he had ascertained that this immunity was obtained by the use of a natural vegetable substance whose properties for cure of such ailments were extraordinary, and that as the result of his research this wonderful remedy was now given to the world. All this was in every particular undiluted falsehood. There was no such person as Charles Forde, no eminent scientist had been engaged in researches, no one had gone to Australia and learned of a time-proved native cure. The truth was that the complainers had formed a scheme to palm off upon the public as having been so discovered a medicine obtained from drug-manufacturers in America as being the embodiment of the imaginary Australian discovery by the eminent scientist Charles Forde. Accordingly, having got their supplies from the American drug-dealer, they proceeded to create a public demand by flooding this country and other countries with advertisements in the press, and by placards and leaflets and pamphlets in which the lying tale was repeated, often embellished with pictorial representations of the healthy savage, and with pictures of the imaginary scientist, duly bearded and be-goggled, having the precious root pointed out to him by the Australian native. It was of importance in exploiting a fraud of this kind to get a catching name, and the only trace of discovery in the whole proceedings was that the complainer Fulford thought out the alliterative name of Bile Beans for Biliousness. Even this was not in a true sense original, the word "beans" having been in several cases applied to boluses in an oval form, and the words "Bile Beans" having formed part of a trade-mark taken out so early as 1887 by one Smith. That descriptive name had proved so valuable a possession that it was desired now to establish a monopoly of these words in combination, and to interdict anyone else from using them upon the footing that these words were not merely a descriptive name, but had come to designate the goods sold by the Bile Bean Company formed by the complainers, and that any use of the name by others was a fraud upon that company. The claim was not for right in a trade-mark, but was made at common law for protection of a trade by preventing a name appropriated to it being used by others. Now this name which the complainers desired to have protection for was the name chosen to designate the article about which all these lying statements were put forward, in order to make a trade by inducing the public to buy as being what the complainers said it was, the article to which the description given of the historical statements were wholly inapplicable. And it was to be observed that these statements were not of the mere puffing order, not of the "never-failing," the "incomparable," the "unique," or the "worth a guinea a box" order; but were statements of alleged facts carefully elaborated and intended to be accepted as facts from which the public might draw a sound inference that the article sold would effect on the buyers what it had done for ages to another race in another part of the world. The purpose was not to catch those who listened to mere assertion about a thing, but to convince them that they were buying a thing which incontestable facts had demonstrated to be a valuable remedy. He agreed with the Lord Ordinary (Ardwall) in holding that the complainers, being engaged in perpetrating a deliberate fraud upon the public in describing and selling an article as being what it was not, could not be listened to when they applied to a Court of Justice for protection. It was their own case as brought out in evidence which stamped their whole business with falsity. In bringing forward their case they were compelled to disclose what otherwise might never have been known, and was not known to the respondent —that the business they sought to protect was tainted with fraudulent misrepresentation. His Lordship had no hesitation in so holding on general principles. No man was entitled to obtain the aid of the law to protect him in carrying on a fraudulent trade. But the cases quoted at the debate and by the Lord Ordinary established, as he thought very clearly, that the Courts had in the past given effect to the principle which allowed nothing to the man who came before the seat of justice with a *turpis causa*. That view was sufficient for the disposal of the case. The complainers could not succeed in obtaining assistance from the law for a business based on unblushing falsehood for the purpose of defrauding the public into a totally false belief as to the origin and material of the goods they sold. His Lordship expressed his concurrence in the Lord Ordinary's view that the name "Bile Beans" was not a fancy name invented by the complainers, but was a descriptive name, and that the words "Bile Beans" formed part of a trade-mark obtained in 1887, and that the complainers went to the expense of buying out the company holding it, although at the time when the Lord Ordinary pronounced judgment they had taken out no trade-mark. He was also of opinion upon the evidence that the respondent had not sold his bile beans under any such form of package or advertisement so that any person exercising ordinary observation could suppose he was getting the complainers' bile beans. He was much struck with the appearance of the labels. They were as unlike as could be. The only resemblance consisted in the words "Bile Beans." The colours were different. The arrangement of the colours was different. The one bore "trade-mark," which was untrue; the other did not. The one bore in small letters, "Charles Forde's," which formed a marked part of the falsehood; the other was headed in strong letters, "Davidson." The one had an alliterative "Bile Beans for Biliousness," there being only one large B for the whole three words. The other stated "Bile Beans" only, with the name "Davidson" again below it in brackets in type as large as the "Charles Forde" on the complainers'; and, further, the boxes in which the beans were sold were of different sizes, of different material, and of different price. In short, there was no practical resemblance except in so far as the words "Bile Beans" were concerned. To these words the complainers had clearly no exclusive title. Whatever strictures might be made upon the actions of the respondent, his Lordship was of opinion that he had not infringed any right of the complainers', and had not been proved to have passed off his goods as those of another. On these grounds he was in favour of adhering to the interlocutor of the Lord Ordinary.

Lord Kyllachy said he concurred.

Lord Stormonth-Darling said he would have contented himself with expressing his concurrence in the reasons which the Lord Ordinary assigned so clearly for coming to the first and leading ground of his judgment (the ground of fraudulent misrepresentation), were it not that some points in the argument had probably been developed more fully before them than in the Outer House. After stating the actual facts brought out as to the nature of "Bile Beans," and their manufacture in relation to the representations made by the complainers regarding them to the public, his Lordship said that while the case must be taken on the footing that at the date of this action the complainers had no registered trade-mark applying to their pill, the law would not allow one trader to pass off his goods as the goods of another unless that other was guilty of some fraud upon the public disentitling him to the protection of the law. Here the Lord Ordinary had found that there was fraud upon the public which struck at the whole trade of the complainers, and therefore disentitled them to the protection of the law. He quoted from Lord Kingsdown's opinion in the Leather Cloth Co. case cited by the Lord Ordinary at p. 542 of H. Clark's House of Lords Cases, and remarked that it was the foundation of the judgment in Perry *v.* Truefitt. What Lord Kingsdown, with the assent of Lord Westbury, stated as the general rule was "the mis-statement of any material fact calculated to deceive the public." It was true that he stated it as disentitling the trader to relief in a court of equity. But his Lordship could not imagine a principle of so general a nature, and intended to protect the public against fraud, as

turning on any mere question of procedure as between courts of law and courts of equity, particularly when applied in a country like Scotland, where no such distinction exists. And if the principle applied, he agreed with the Lord Ordinary that the facts of the present case were amply sufficient to raise it. Mere puffing would not do. Exaggeration, however gross, of the merits and virtues of a remedy would not do. In the case of Holloway's pills in 13 Beavan, p. 209, it was held that the description of the inventor as "professor," and the statement in advertisements that the pills were adapted to cure all diseases, did not amount to misrepresentations disentitling him to have an injunction against a piratical brother. But here what the Lord Ordinary well called the "foundation fiction" of the discovery by an eminent scientist of a vegetable substance growing in Australia which had long ago enabled the natives of that country to defy disease, and had at last been reproduced in the most convenient medicinal form as "Bile Beans"—this flagrant piece of invention was no casual lapse into hyberbolical language, but was circulated systematically from the very inception of the trade, and plainly formed the basis on which the whole superstructure rested. It was said that to have the effect of disentitling the trade to the protection of the law the misrepresentation must not be collateral, but must be contained in the trade-mark (where it existed), or the trade-name itself. But there was nothing collateral in this misrepresentation. It affected the very essence of the article offered for sale, and was plainly implied in the name "Charles Forde," that being the name of the so-called "eminent scientist" who had made the "valuable discovery." If so, it did not matter that the rival trader, the respondent Davidson, might have been actuated by a motive to secure for his own bile beans a certain advantage from the reputation which the complainers had acquired for theirs by advertisements which were as extensive as they were mendacious. The Lord Ordinary intimated that he could not approve of all the respondents' proceedings, and neither did his Lordship. It was true that the respondent sold his pills in boxes of a different size, and marked by a label of a different colour, on which his own name, and not the complainers', appeared. To the customer, therefore, who was reasonably wary there was not much risk of the respondents' goods being successfully passed off as the complainers'; and he was not sure that the law was bound to concern itself with the interests of the unwary customer. Certainly it appeared that the actual purchasers of the respondent's pills got exactly what they wanted. But, on the other hand, it was plain that the respondent was prepared to sell his own pills to anybody who simply asked for "Bile Beans" without specifying that they must be "Charles Forde's." Now, the two article were necessarily different, for the complainers' pills were made from a secret formula (albeit containing no ingredient which had been discovered in Australia), while the respondent's were made from a well-known and probably effective enough formula for a cathartic mixture to be found on the ordinary list of the manufacturing chemist who compounded it. If the respondent had made this plain to purchasers no possible exception could have been taken to his proceedings. But he left it dark, for no better reason than that he knew complainers' pills to have acquired a great vogue, and he did not know of what they were compounded. He therefore took his chance of their carefully propagated story of the "great Australian discovery" turning out to be a fabrication. Perhaps it was fortunate for him that it did turn out to be so. But as it did—and that could only be found out in the course of the investigation to which the complainers' proceedings were exposed in this case—the fraud of the complainers made it unnecessary, as he thought, to consider the respondent's conduct at all. A great deal of argument was directed to the question whether, assuming the complainers' trade to be untainted by fraud, they had succeeded in proving that the phrase "Bile Beans" was a "fancy name" of their own invention. The Lord Ordinary held that that had not been proved in point of fact, and he was rather inclined to agree with him. He did not lay much stress on the old registration of bile beans as a trade-mark by J. F. Smith & Co., for their trade seemed to have been insignificant. But the complainers could hardly be heard to say that the name was not descriptive when they advertised extensively that the title was given "to express exactly what the preparation was—a bean for the bile." Anybody who read that knew precisely that the article offered for sale was an antibilious pill, and in face of such an intimation from the complainers themselves no amount of evidence that "bean" is a novel and fanciful name for a pill could go very far. But it was unnecessary, in his view, to pursue that topic for the reasons he had stated. He was therefore for adhering.

Lord Low said he agreed with the result at which their Lordships had arrived. He was of opinion that the false and fraudulent representations in regard to the origin and nature of their goods by which the complainers had built up their large business disentitled them to have that business protected by the Court. He was therefore of opinion that the note was rightly refused. In regard to the merits of the case—namely, the question whether, if there had been no fraud, the complainers would or would not have been entitled to interdict against the respondent, he desired to express no opinion. It was not necessary for the disposal of the case, and the question appeared to him to be one which was attended with very great difficulty.

Judgment was accordingly entered for the respondent.

Messrs. Farr & Lomas-Walker, solicitors to the Bile Bean Manufacturing Co., writing to us on July 24, say, "This decision in no way affects our clients' rights in England. They propose taking the matter to the House of Lords with the utmost dispatch, as they are advised that such an appeal will be successful."

Pharmacy Act, 1868.

"Pharaoh's Serpents' Eggs."

At the Nottingham Summons Court on July 19, Frederick Hannah, smallware dealer, 51 Bridlesmith Gate, Nottingham, was summoned at the instance of Mr. Harry Moon, Clerk to the Pharmaceutical Society of Great Britain, under Section 17 of the Act, for selling mercuric sulphocyanide, in boxes which were not labelled "Poison." Mr. A. Barlow prosecuted, and Mr. J. A. H. Green appeared for the defendant. Mr. Barlow explained that the proceedings were initiated in order to protect the public from the unrestricted sale of the poison, which had been sold in the form of "Pharaoh's Serpents' Eggs," one of which had killed a boy named Whitby. Detective-Superintendent Parnham proved that on June 21 he purchased a box which contained three dozen smaller boxes of the "eggs." On none of the boxes was there anything to indicate that the contents were of a poisonous nature.

Mr. Thomas Tickle, analyst to the Pharmaceutical Society, said he had analysed the pellets, and found them to contain mercuric sulphocyanide, which is scheduled as a poison under the Pharmacy Act, and can only be sold by a properly qualified chemist.

Mr. Green explained that defendant had no idea of the poisonous nature of the pellets, which he had sold for thirty years. He had now ceased to stock them.

The Magistrates expressed their approval of the prosecution, but took into consideration what Mr. Green had said, and only imposed the nominal fine of half a guinea, exclusive of costs.

Sale of Food and Drugs Acts.

Spirit of Nitre.

At Greta Bridge on July 18, Messrs. Joshua & John Geo. Burn, grocers, Barnard Castle, were summoned for selling spirit of nitre which was deficient in ethyl nitrite to the extent of 31 per cent. The Bench, in imposing a fine of 10s., including costs, expressed a hope that tradesmen in the habit of selling volatile drugs would pay more attention to them.

At the Rochester County Police Court on Friday, July 20, Mr. Thomas M. Chesterfield, chemist and druggist, Gillingham, Kent, was summoned for selling spirit of nitre which was deficient in ethyl nitrite to the extent of 79.9 per cent. Mr. W. S. Glyn-Jones, barrister (instructed by Messrs. Neve, Beck & Kirby, solicitors to the Chemists' Defence Association), appeared for the defence. The purchase having been proved, Superintendent Sargent gave evidence in regard to the report by the public analyst, and in the course of it Mr. Glyn-Jones pointed out that the analysis was dated June 11, and the sample had been received by the analyst on May 30. It was a pity such certificates did not show the date on which the analysis was actually made. Counsel informed the Bench that his client had a warranty, and notice of that warranty had been given to the prosecution and to the wholesalers. The spirit, he said, is extremely difficult to keep, and there was no question here of adding anything or taking anything away. He took exception to the analyst stating that ethyl nitrite is the essential ingredient in spirit of nitre. There is a great deal of conflict as to what is really the essential ingredient in that drug, and it is a matter for a medical man to decide. The Pharmacopœia says that when spirit of nitre has been kept for some time it should not yield much less than three volumes

of gas, corresponding to 1¼ per cent. of ethyl nitrite. When freshly prepared it should yield seven volumes of gas, but after occasional openings would depreciate to three volumes. The spirit of nitre was purchased from Messrs. Willows, Francis, Butler & Thompson, Ltd., a wholesale house of very high repute in London. He relied for his defence of warranty on the price-list, the label on the bottle, and the invoice. The defendant purchased three 1-lb. bottles at 3*s.* 4*d.* each, and the label on the bottle stated "This article is guaranteed to answer the characters and tests of the British Pharmacopœia." The wholesale house did not question that they warranted it, and the article was sold by the defendant exactly as he received it. In fact, the bottle from which the constable was supplied had never been opened before.

Mr. Chesterfield gave evidence on oath, stating that he served the constable himself from a fresh bottle brought from the cellar.

Superintendent Sargent said the prosecution did not contest the warranty. His contention was that the article was not what had been asked for.

Mr. Glyn-Jones said he had to prove that defendant had bought the drug with a warranty, that he had sold it exactly as he received it, and that he had no intention to defraud.

This was stated on oath by Mr. Chesterfield, who added that he had no reason to believe that he could not place confidence in the label on the bottle.

Superintendent Sargent (to defendant) : Is it your opinion that the drug, when it was sold to me, was exactly the same as when you received it from the wholesale house?—Defendant : As near as anyone could possibly keep it.

Then your contention is that the wholesale people are wrong?—My contention is that I was selling an article which I considered right and proper, and as I bought it.

Mr. Glyn Jones : We do not for a moment suggest that this spirit of nitre was at full strength when sold. The chemist in charge of that particular department of the wholesale house desires me to state that they cannot account for the condition of the drug. Every precaution is taken by daily examination to ensure its strength, and only by accident could it be sent out otherwise.

The Chairman of the Bench announced that the Magistrates had decided to dismiss the case, as they were unanimously of opinion that the drug was sold by defendant exactly as he had received it from the wholesale house.

County Court Case.

A Chemist's Cigars.

At Brighton County Court on July 20, the executors of the late Mr. G. S. Boutall, chemist and druggist, were sued by Mr. G. F. Gunn, Ship Street, Brighton, for 10*l.* 3*s.* 8*d.*, the value of cigars supplied to Mr. Boutall in his lifetime. The plaintiff keeps an oyster bar, and alleged that Mr. Boutall was in the habit of calling there for refreshments and paying at intervals. Plaintiff stated that he had received as much as 30*l.* a month, payment being made by cheque. In the course of cross-examination it transpired that plaintiff did not keep regular books, and the account was made up of slips from a penny book.—For the defence evidence was called to prove that no cigars of the brand said to have been supplied to Mr. Boutall were found in his effects; but the Judge decided for the plaintiff, with costs.

Bankruptcy Report.

Re Wm. Wesson, formerly trading as a Druggist at Kingston-on-Hull, but now out of business.—The examination of this debtor took place at Leicester Bankruptcy Court on July 19, on a statement of affairs showing liabilities 108*l.* 17*s.* and assets 17*l.* 10*s.*, deficiency 91*l.* 7*s.* Examined by the Official Receiver, debtor explained that he lost money at a druggist's shop at Hull, which he carried on for three years up to 1905, and later lost money at a greengrocer's shop between February and May this year. He had kept no books. The examination was closed.

The Exports of Colocynth from Baghdad during 1905 amounted to forty-four packages, valued at 286*l.*, against sixty-six packages, valued at 530*l.*, during 1904. Sixty-two cases of galbanum and ammoniacum, valued at 310*l.*, also left Baghdad last year, against *nil* in 1904.

Gazette.

Partnerships Dissolved.

Morrish, T. F., and **Henderson, H. M.,** Liverpool, medical practitioners.

Slight, J. D., and **Little, A. M.,** Leicester, physicians.

Taylor, H. O., and **Herrick, R. W.,** Nottingham, physicians and surgeons.

The Bankruptcy Acts, 1883 and 1890.

Receiving Order.

Kilpin, Charles Edward, trading as Lemmon & Kilpin, Brighton, druggist.

Order Made on Application for Discharge.

Lyle, William, Berwick-on-Tweed, wholesale chemist, house-painter, and chemist and druggist—discharge suspended for six months ending November 24, 1906.

New Companies and Company News.

James Lofthouse & Co., Ltd.—Capital 500*l.*, in 1*l.* shares. Objects: To adopt an agreement with T. J. C. Lofthouse and C. F. Lofthouse, and to carry on the business of pharmaceutical or other chemists, druggists, vendors of toilet-requisites, fancy ware, and stationery, etc. The first directors are T. J. C. Lofthouse and C. F. Lofthouse. Registered office, 94 Dock Street, Fleetwood, Lancs.

North-Western Cyanamide Co., Ltd.—Capital 120,000*l.*, in 1*l.* shares (30,000 "A" and 90,000 ordinary). To adopt agreements (1) with the Società Generale per la Cianamide of Rome, (2) with the Sun Gas Co., Ltd., and (3) with A. E. Barton and A. Angeli, to carry on in any part of the world the business of manufacturers of and dealers in carbides, cyanamide, nitrogen, etc. Registered office, 95 Winchester House, Old Broad Street, E.C.

Mrs. Pomeroy, Ltd.—Capital 2,000*l.*, in 1*l.* shares. To adopt an agreement with E. H. Girling, to acquire all or part of the undertaking and assets of a company of the same name, to carry on the business of hygienic complexion treatment, electrolysis, manicure, chiropody, face massage, and the like, and to manufacture and deal in toilet requisites, etc. No initial public issue. The first directors are to be appointed by the signatories. Qualification 50*l.* Remuneration 100*l.* each per annum. Registered office, 33 and 34 Carnaby Street, W.

W. H. Bailey & Son, Ltd.—Capital 25,000*l.*, in 1*l.* shares (10,000 preference). Objects: To adopt an agreement with C. H. Bailey and G. F. Bailey for the acquisition of the business carried on by them at 33 and 40 Oxford Street, 2 Rathbone Place, and 52 Fore Street, all in London, as "W. H. Bailey & Son," and to carry on the business of manufacturers of and dealers in surgical instruments, bandages, trusses, hosiery, belts, suspensories, and other surgical appliances, hospital furniture, etc. The first subscribers are: C. H. Bailey and G. F. Bailey, 38 Oxford Street, W., surgical-instrument makers; A. G. Carver, Northwood; H. C. Thwaites, L. Waters, P. Adkins, and W. J. Busk. No initial public issue. The first directors are C. H. Bailey and G. F. Bailey (permanent) and A. G. Carver. Qualification, 200*l.* shares or stock. Remuneration of permanent directors, 150*l.* each per annum; A. G. Carver, 100*l.* per annum; of other directors, 50*l.* each per annum. Registered office, 38 Oxford Street, W.

Bovril, Ltd.—The directors have resolved to pay an interim dividend on the ordinary shares at the rate of 7 per cent. for the half-year ended June 30 last.

Price's Patent Candle Co., Ltd.—The accounts for the six months ended June 30 last show a profit of about 32,000*l.*, and the directors recommend a dividend of 15*s.* per share.

W. B. Fordham & Sons, Ltd.—The directors have declared an interim dividend at the rate of 5 per cent. per annum, free of income tax, for the six months ended June 30 last.

British Camphor Co., Ltd.—Particulars of 30,000*l.* debentures created by resolution of June 25, 1906, have been filed pursuant to Section 14 (4) of the Companies Act, 1906. The property charged is the company's undertaking and assets.

Collins' Eucalypti Remedy Co., Ltd. (London).—On July 2 there was an issue of 80*l.* 7½ per cent. debentures, part of a series created on August 18, 1904, to secure 1,000*l.*, charged on the company's undertaking and property, including uncalled capital. No trustees. The total amount previously issued of same series was 100*l.*

Personalities.

Mr. T. H. W. Idris, M.P., is expected to go for a sea-voyage soon.

Mr. J. Griffith Isaac, chemist, Neath, has been elected a director of the Ton Phillip (Bryndu) Colliery Company, of Swansea.

Mr. Edward de Putron, representative for William Toogood, Ltd., has a severe attack of pleurisy, but is progressing favourably.

Mr. Maccomb G. Foster, of Messrs. Fairchild Bros. & Foster, New York, reached London this week from Paris, and is accompanied by Mrs. Foster.

Mr. Caleb Kilner, Conisboro', Yorks, of Messrs. Kilner Bros., Ltd., glass-bottle manufacturers, has been appointed to the Commission of the Peace for the West Riding.

Mr. Robert Rowlette Martin, who has represented Messrs. Stearns, of Detroit, in India, has gone to Davos Platz under medical orders, and during his absence Mr. B. H. Haug will take up the representation.

Mr. J. H. Grundy, of the Standard Drug Co., Adelaide, South Australia, is at present in this country. He is combining business and pleasure, having already lingered in some of the beauty-spots of Continental Europe.

Mr. C. F. Longmore, of Melbourne, has arrived in England this week. Mr. Longmore is the son of Mr. Francis Longmore, one of the best known and most successful Melbourne chemists. Letters may be addressed to Mr. C. F. Longmore at the office of The Chemist and Druggist.

Miss Elinor Proby Adams, daughter of Mr. H. G. Adams, chemist, Newport, Salop, was last week awarded a schclarship by the British Institution Scholarship Fund Trustees for painting. This scholarship is of the value of 50*l.* per annum, tenable for two years, and will allow her to continue her studies at the Slade School, University College, London, in conjunction with the scholarship she won there last month.

Birth.

Butler.—At Uitenhage, Cape Colony, on June 9, the wife of A. T. Butler, chemist and druggist, of a daughter.

Marriages.

Jones—Hudson.—At Mexborough Parish Church on July 11, by the Rev. W. H. F. Bateman, M.A., R.D. (Vicar), Daniel Thomas Jones, chemist and druggist, youngest son of Mr. John Jones, chemist, Swinton, to Eleanor, youngest daughter of Mr. W. R. Hudson, Esk House, Mexborough.

Philp—McCulloch.—At the Station Hotel, Perth, on July 18, by the Rev. George Yuille, Stirling, assisted by the Rev. John Macbeth, Newton (cousin of the bride), and the Rev. John Robb, Forgandenny, George Philp, chemist and druggist, Dunfermline, to Jeanie, eldest daughter of Mr. James McCulloch, Forgandenny.

Sanders—Parrett.—At Ilfracombe, on July 17, John Fletcher Sanders, jun., chemist and druggist, third son of Mr. J. F. Sanders, chemist and druggist, Silver Street, Ilminster, to Kate, younger daughter of Mr. E. J. Parrett, of Ilfracombe.

Barker—Waters.—At the Parish Church, New Malden, Surrey, on July 24, by the Rev. Challacombe, Vicar, Donald William Elsom Barker, chemist and druggist, eldest son of Alfred William Barker, chemist and druggist, Fulham, S.W., to Ethel Roalfe, younger daughter of the late William Henry Waters, Cambridge.

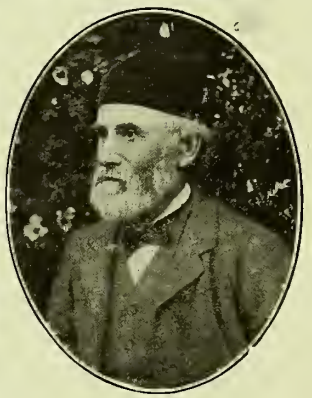
Spencer—Baiss.—At St. Paul's, Herne Hill, on July 10, by the Rev. Edward J. Dupuis, M.A., Rector of Alphington, Exeter, assisted by the Rev. H. P. Lindsay, M.A., Vicar of the parish, and the Rev. Norman Higgins, M.A., Lieut. Patrick Spencer, Royal Navy, H.M.S. *Sappho*, to Evelyn Grace, only daughter of Mr. and Mrs. Arnold Baiss, Nevin, Herne Hill.

Deaths.

Atkins.—At The Mount, Elm Grove, Salisbury, on July 15, Harriette, wife of Mr. Samuel Ralph Atkins, pharmaceutical chemist and member of the Council of the Pharmaceutical Society.

Cortis.—At Worthing, on July 17, Mrs. Cortis, widow of Mr. Charles Cortis, chemist and druggist, South Street, Worthing, aged ninety.

Mitten.—At Hurstpierpoint, Sussex, on July 20, Mr. William Mitten, A.L.S., chemist and druggist, aged eighty-six. Mr. Mitten was the leading authority on British mosses, and the oldest associate of the Linnean Society, he having been elected on January 19, 1847, in recognition of the work he had done on his favourite subject—since then much augmented. The associateship is limited to twenty-five individuals. Mr. Mitten had been in business at Hurstpierpoint for many years, but latterly the pharmacy has been conducted by his daughter, Miss Flora Mitten, pharmaceutical chemist, who was one of the first ladies to pass the Major examination. Mr. Mitten was born at Hurst, Sussex, on November 30, 1819, and educated at Lewes. His acquaintance with pharmacy began in Lewes, where he was apprenticed. After that he was for a short time in Brighton as an assistant, then came to London to take a position in a Borough wholesale house; there he had quite varied experience. He was in business at Hurstpierpoint for fifty-six years, and during the greater part of that time opened his pharmacy at 7 A.M. and kept it open until 10 P.M. He was interested in all branches of science—for example, he and the late Mr. Savage, of Brighton, became acquainted with each other more than sixty years ago over an electro-plating apparatus in which both were interested. Among the work in botany done by Mr. Mitten was his description of the Hepaticæ of New Zealand in Sir J. D. Hooker's "Flora of New Zealand." He examined and classified the mosses for the *Challenger* expedition, and was also the author of a stupendous work on the mosses of South America. He was a man of serene temper, with a strong vein of humour and a very keen perception, and many unobtrusive acts of kindness were done by him which few ever heard of. He was the local authority on archæology and natural history. Mr. Mitten leaves a widow (who is ninety-three years of age) and four daughters.



Stead.—At Ashfield Villa, Heckmondwike, on July 19, Mr. Joseph Stead, member of the firm of Abraham Stead & Sons, druggists and drysalters, Valley Mills, aged seventy-six.

Wanklyn.—The once well-known chemist, Mr. James Alfred Wanklyn, M.R.C.S., died suddenly last week from heart-failure, and was buried at Norbiton Cemetery on Monday. For some years Mr. Wanklyn had been out of touch with his *confrères* in professional chemistry, and had been living in semi-retirement in the South-west of London. He was one of the earliest students at Owens College, and as a young man was assistant to the late Lord Playfair when he was Professor of Chemistry at Edinburgh University, the young chemist now known to the world as Sir James Dewar being his assistant. Later in life Mr. Wanklyn became a leading authority on water-analysis, milk-analysis, and kindred subjects, and enjoyed a large practice as a consultant and expert witness. His methods and books on the subjects in which he specialised are still regarded as useful. Though iconoclastic in several respects, Mr. Wanklyn was a charming man, full of reminiscence, and a fascinating talker. A few years ago he contributed a series of papers to this journal.

Our Town Traveller

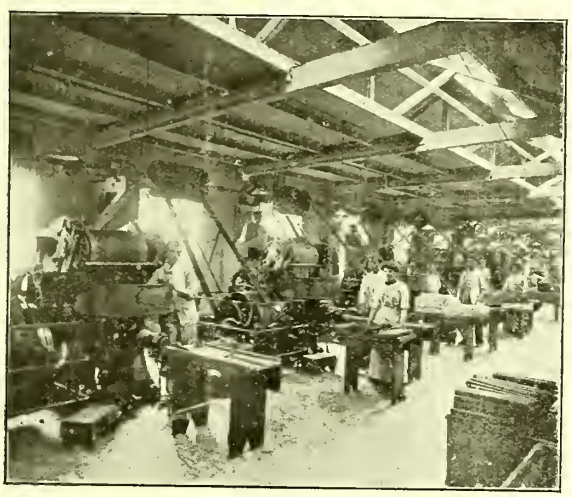
ON the occasion of the recent visit of the Society of Chemical Industry to the soap works of Messrs. Joseph Crosfield & Sons, Ltd., Warrington, a representative of the *C. & D.* was asked to be one of the company, and "Our Town Traveller" availed himself of the opportunity. He reports that from eleven o'clock in the morning to five in the afternoon he was engaged in going the round of the various departments of the business, and in inspecting phases of the "Welfare work" for which Crosfield's have acquired a deserving reputation. The surroundings of the works are not such as one would choose for residential purposes, and it is therefore the more to the credit of the company that they have succeeded so well in interesting the workers in self-culture. There are, for instance, flower-boxes at most of the windows, kept in order by the workers in their own time and at their own expense. This has led to a more frequent cleansing of the windows, and consequently business is carried on in a better light, making for the comfort of all concerned. Continuing, our representative says: My guide during the tour of the works was Mr. G. R. Crosfield, one of the directors of the company, and any points which I did not grasp were readily explained to me on request.

SOAP-MAKING.

One huge store we visited was filled with casks of oils and fats used in soap-making. The solid oils are melted out by injecting steam through the bung-hole. A suitable mixture of fats is run into large square pans of a capacity of 100 to 160 tons and caustic soda solution added. The mixture is boiled by injecting steam until saponification is complete. Brine is then run in and the soap separated, floating on the brine. The spent lye, as the mixture of salt and glycerin is called, is drawn off, and both the salt and glycerin recovered. The hot soap is run into large frames to cool, or, in the more modern way, to a machine which automatically cools the soap and shapes it into tablets.

ERASMIC SOAP.

Special precautions are, of course, needed when high-class toilet-soap is to be manufactured. In the case of the Erasmic specialities a whole department is involved, and contains special machinery. One of the photographs with which these notes are illustrated shows the milling and plodding



MAKING ERASMIC SOAP.

processes through which the soap goes. The soap is reduced to shreds (this can be seen in the second machine from the left), and then, mixed with the perfume, is passed between granite rollers. Next it passes to the "plodding" machines, from which it issues in the form of bars, a ring of gas jets assisting the exit of the soap. The bars are then cut up, stamped into tablets, wrapped, and boxed. The manufacture and bottling of perfumes is carried on close by, and it was interesting to watch the agility with which the girls can cap the bottles of perfume.

CAUSTIC SODA.

Two processes are used at Crosfield's in the manufacture of caustic soda. The lime process is the one which most chemists are familiar with. Besides this Loewig's ferrite process is followed. Here iron oxide and soda ash, about five tons of the mixture, are heated in a huge revolving cylinder, which is heated by gas for some hours. The soda ash loses carbon dioxide, and sodium ferrite is produced. Our visit happened to coincide with the time for emptying the cylinder, and an impressive sight it was. A circular door was opened on one side of the cylinder, and as the cylinder revolved a quantity of the glowing sodium ferrite was ejected on to iron plates on a train of trucks, the train being moved on as each charge was ejected. The sodium ferrite is but a loose combination, and when mixed with water iron oxide is thrown down, leaving caustic soda in solution. The ferric oxide is used over and over again.

SILICATE OF SODA.

Another warm process is the manufacture of silicate of soda, or, as it is familiarly called, water-glass. Sand free from iron, such as is used by flint glass-makers, is mixed with soda ash and submitted to the intense heat of a regenerative gas-fired furnace. After a while the molten silicate is run out into long iron trays to solidify. A furnace had just been discharged, and we felt from a distance the heat of the glowing glass. If there is but a small quantity of iron present in one of the ingredients a distinct colour is given to the residual product, and samples which I was shown varied from reddish to the clear quinine tint which as pharmacists we so much admire in our dispensing bottles. The cooled silicate is broken up and boiled with water under pressure to make a solution. Only a weak solution can be made in this way, the viscous mass which chemists sell for egg-preserving being obtained by evaporation *in vacuo*.

GLYCERIN MANUFACTURE.

As I mentioned above, the glycerin, which results from the interaction of fats and caustic soda in soap-making, is recovered from the spent lye, and the process is one which especially interests pharmacists, to whom it is such an important solvent and article of commerce. The spent lye is treated with chemicals, alum being the principal, filter pressed, and evaporated *in vacuo*. As the evaporation proceeds the salt is thrown out, and is removed and used over again for brine. The production of both commercial and medicinal glycerin involves a double process of distillation, and naturally special precautions are taken to ensure the absence of metallic contamination in the medicinal glycerin.

WATER AND FIRE.

After inspecting the water-purification apparatus, and a water-softening plant which deals with over 20,000 gallons per hour, day and night all the years round, the visitors had a look at the boilers. There are four batteries of Lancashire boilers (mostly 30 ft. by 9 ft.), all being fitted with mechanical stokers, and furnished with Green's Economisers and Crosfield's Patent Superheaters. This department is under complete chemical control, samples of the furnace gases being taken every hour, and these are expected to show 13 per cent. of carbon dioxide, with 5 to 6 per cent. of oxygen, but no carbon monoxide. If the percentage of carbon dioxide rises to 15 per cent. there will also be present 0.5 per cent. of carbon monoxide, and this is to be avoided. As a result, the works have solved the problem of burning large quantities of low-priced bituminous coal without smoke and with great economy, the saving effected being estimated at 1,000*l.* per week, or 50,000*l.* per year.

I must find a few lines to mention the excellent precautions against fire. The fire-brigade is especially smartly organised and turned out within a few seconds of the alarm being

given. A display of life-saving was excellently carried out, a word of praise being due to the way the rescued persons

The Works Fire-brigade.

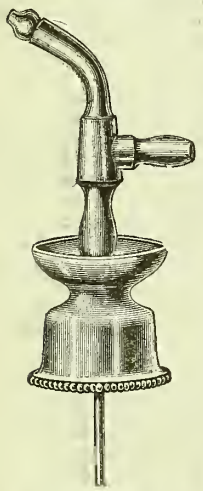
acted their parts when rescued from the roof and various parts of the new fire-station.

A Round of the City Showrooms

makes it evident that business is slowly but surely "picking up." The holiday feeling is very prevalent at the moment, and large orders, except to seaside resorts, are none too numerous; but the general tone is good. Fruit drinks, salines, sponges, and bathing-caps are the main attractions in retail shop-windows.

At Maw's.

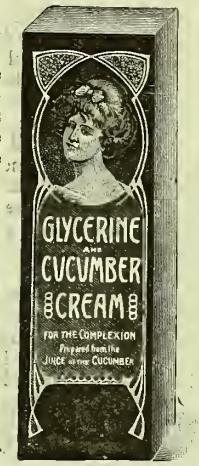
In the showrooms of Messrs. S. Maw, Son & Sons, in Aldersgate Street, E.C., there is, as usual, a profusion of summer lines giving a wealth of selection. Should anyone desire to lay in a choice stock of perfume-sprays now is the time. The variation in styles, always large, seems to be more so than usual at present, and some of the decorations for pump or ball sprays are very chaste. But every taste—excepting the "cheap and nasty"—is studied at Maw's. The new spray which we illustrate is ingenious. It is fitted with a conical-shaped head which acts as a drip-catcher when in use or as a funnel when the bottle requires to be refilled. The value of the drip-catcher in preventing the soiling of toilet-cloths will be specially appreciated by the thrifty housewife, and the ease with which the bottle may be filled when the nozzle is unscrewed will commend itself to all. Ornate perfume-bottles, three in a gilt stand, look very saleable considering their cheapness, and travellers will appreciate a new series of wicker-covered bottles for eau-de-Cologne, toilet-vinegar, and so forth. An ivory-white, non-inflammable and unbreakable dressing-comb, costing from 7*s.* to 18*s.* per dozen is a tempting line, and Messrs. Maw have found it so. The "Lily" combs, made of galanith, and carded in half-dozens, are selling like wildfire. There is a "small-tooth" series of "Lily" combs as well as the larger sizes, and all are of quite the best finish. In brushes, a brush backed with a new kind of wood looks handsome and cheap at 21*s.* per dozen; there is also a new hygienic nail-brush with holes in the back to allow the water to run through. In the sponge showrooms I saw some of the most perfectly shaped Turkey cups I have ever seen. The assortment in original cases is very large, and the cups are more reasonable in price than the fine-quality honeycomb. The latter are becoming scarcer and dearer annually, and there is little prospect of a decline in price. Incidentally, I saw



there what is described as the biggest honeycomb sponge ever fished. It is a curiosity, and 20*l.* could not buy it. With regard to rubber sponges, which have still a vogue, they have now reached their level in quality and price. A very large size—the largest yet produced—sells at 12*s.* 6*d.* retail. In the fancy glass department the items that particularly took my eye were a toilet-bottle (holding over 7 oz.) with an art-green rim, and a cane cut toilet-bottle of an Eiffel-tower construction standing over 10 inches high, but which holds only 4 oz. of perfume. These are handsome and effective show-lines, and 54*s.* is not dear for a dozen.

At Evans Lescher's.

In the showroom at Bartholomew Close, E.C., surrounded by shop-fittings made from designs suggested by Sir Aston Webb, Mr. T. Edward Lescher exhibited with pardonable pride the new styles in counter-adjuncts recently introduced by his company. The seasonable line is summer saline, and the handsome gold-embossed series of cartons for salines, described in The Chemist and Druggist some time ago, have been very popular and are still selling. There are two sizes—6 oz. and 8 oz.—and the rich colouring of the designs makes a fine display. The labels for all Hawley's counter-adjuncts are in the best style of modern high-class printing, and the glycerin-and-cucumber cream carton, shown herewith, gives some idea of the effectiveness of the method. The latest productions include a one-solution hair-dye in various tints. These are nicely got up in white and black cartons to retail at 1*s.* 6*d.*, giving, like most of the Hawley products, cent. per cent. profit. Another taking line is "Eastern Pot-pourri," put up in Chinese willow-pattern tins and costing 8*s.* per doz. Show tins are provided for Montserrat lime-fruit-juice lozenges, and other lozenges. These are in old Dutch tile designs and are very attractive. The capsule business has always been a very large one with this company, and they have moved with the times, their products being very highly finished and beautifully made. They have a specially large variety of designs in santal perles.



At Gosnell's.

The handsome oak-panelled offices and showrooms of John Gosnell & Co., Ltd., at 213 to 215 Blackfriars Road, S.E., are probably not so well known to home buyers as they ought to be, but to foreign and Colonial customers, and to those merchants whose business it is to export perfumery and toilet articles, they are familiar. The magnitude of the export side of this business continues to increase, I was told on a recent visit, at a rate which leaves little time for leisure and the propagation of new lines. But there is always something new being produced at odd moments, and it was somewhat curious to observe a full show of new perfume-cabinets for next Christmas, until one remembers that our *confrères* overseas have to buy well ahead. Among new preparations I was particularly pleased with "Japanese Cherry Blossom" perfume, put up in quaint, guitar-shaped bottles with labels in Japanese, and cased in a box resembling a chip of a tree with the bark for lid. These cost about 31*s.* 6d. per dozen. "Acacia Rose" is another new perfume in a different shaped bottle and case, which costs the same money, and there is also "Gloire du Printemps" produced in the French style. Gosnell's cherry tooth-paste is now put up in decorated collapsible tubes, each packed in a carton, to retail at 1*s.* Miniature samples of the tooth-paste are given away with orders for 3 dozen tubes, and there is also a mammoth show-carton for window-display. A nicely packed 6*d.* line, with ribbons, labels, etc., in assorted colour is a brilliantine called "Cherry Blossom Oil." Then there is a curious series, known as the "Relics," which will prove irresistible to the unorthodox in perfume-cabinet decoration. The outside of the box is a faithful representation of a very ancient key and lock. There are

two sizes, one containing only one bottle of perfume, selling at 4*s.* 6*d.*, and the two-bottle case 6*s.* 6*d.*

At Newbery's.

In spite of the fact that Newbery's have been in existence for 160 years, they are by no means behind the times in their methods. Messrs. F. Newbery & Sons were the first to introduce many well-known American proprietaries into this country, and to-day their services are sought by American, Continental, and Oriental proprietors as keenly as heretofore. The reputation of the firm for an uncompromising probity, approaching Puritanism, is a guarantee for manufacturer and dealer alike of the class of goods sold. The development in the packed-goods and proprietaries departments during recent years has been considerable, and I seldom look in at the showroom in Charterhouse Square, E.C., without finding something novel. The other day I was shown a series of six perfume-sprays of various designs packed in a case in the form of a half-circle, which is very useful for counter-display. The case I saw cost 7*s.* 6*d.*, but the price naturally varies according to the quality of the sprays included. "Brilliant nail-polish" is a sixpenny line of the pencil pattern. There is also a new urethral syringe (costing 4*s.* 6*d.* per dozen) which is fitted with a rubber nozzle and vulvanite piston. "Corn and wart solvent" is neatly put up in 2-dr. and ½-oz. glass-stoppered bottles (with brush for each bottle) to sell at 6*d.* and 1*s.* respectively retail. The "Bric-a-brac" nail-brushes are now made in wood, as well as in bone and ivory; the wooden series costing only 2*s.* 6*d.* per dozen. Some other lines were the "St. Paul's" all-rubber baby's ring and soother to sell at 2*d.*, a thing not hitherto done; a dose bottle for the vest pocket, holding two tablespoonfuls (3*s.* per doz.), "St. Paul's" bay-rum (two sizes), an antiseptic dentifrice in similar style, and a tiny flagon of wood violet with cut stopper, besides other cheap toilet novelties. Warner novelties include tasteless laxative chocolates for children, antacid tablets, and a series of body-named beans which should be popular. I learned from Mr. Scott, the European manager for the Trommer Co., that Trommer's malt still forges ahead in spite of many competitors. A special propaganda is being instituted to bring the medical men who believe in Trommer's directly in touch with their local chemist.

At Schutze's.

"Father Neptune's Safe Float"—the "water-wings" which have been so popular recently—has been worrying Messrs. F. Schutze & Co. "We can't get them made fast enough," complained Mr. Marks at a recent interview; "customers all over the world are clamouring for them." The fact that these popular bathing adjuncts as made by Messrs. Schutze contain no rubber, so that they are not likely to perish easily, may account for the rush. But another factor that helps their sale is undoubtedly the piquant window-shows the firm send out with stated quantities. A miniature man with miniature "water-wings" is presented to an amused public, floating in a miniature lake, edged with banks of green baize. Window-shows, especially the floral-basket description, have always been a feature of Schutze's new lines. Some of these baskets of artificial flowers are very fine. I saw baskets of assorted flowers, of carnations, violets, Japanese lilies, and sweet pea, pure and simple, each to be used with the corresponding perfume, and the latest, for buttermilk ball soap, is a very tastefully arranged basket of buttercups and poppies. The "Geisha" loofah sponge, in six sizes, is seasonable and popular, the cost prices being from 4*s.* to 12*s.* per dozen, subject. A new idea for smelling-salts is the use of globular crystals of various colours in place of salprunella balls. The effect is very good, and the bottle of a fair size looks cheap at a shilling. A useful vest-pocket adjunct is a 4*d.* tin of caoutchouc heft-band plaster, which in the expressive phrase of the City man "sticks as close as the fellow who wants to borrow a fiver."

Beeswax valued at 39,776*l.* was exported from Madagascar during 1905, against 27,282*l.* during the previous year.

Westminster Wisdom.

(From our Parliamentary Representative.)

Poisons and Pharmacy Bill.

Although it has been definitely decided to postpone consideration of the Bill till the autumn Session, the second-reading stage of the Poisons and Pharmacy Bill was down upon the paper as one of the orders on Wednesday this week, and, when reached, was formally deferred to a later day. The autumn Session, in accordance with an official intimation made in the House within the past few days, will commence on Tuesday, October 23, members, of course, adjourning for the summer recess on Saturday, August 4.

Four more petitions for the Bill's alteration have come in during the week. They were sent from Barry Port, Gainsborough (2), and Stockport.

Revenue Bill: Industrial Alcohol.

Evidence of the Government's desire to make progress with the Revenue Bill was again forthcoming on Thursday, July 19, when those parts of the Bill effecting a change in the Excise duty, etc., were taken separately in Committee. In the small hours of Friday morning certain requisite resolutions were formally moved from the Treasury bench, and agreed to without a division. The first resolution—and the only one affecting chemical interests—was to the following effect:

> That there be charged as from the sixth day of July, nineteen hundred and six, on a licence to be taken out annually by a manufacturer for sale of British wines, an Excise-duty of one pound.

This and the two following resolutions were ordered to be reported to the House on Friday, and went through without opposition at about seven o'clock, just before the adjournment of the House on that day. Since then Mr. McKenna has given notice of an amendment to pay the allowance on methylated spirit to the methylator or receiver. Mr. Healey wants "allowance" altered to "bounty," and Mr. C. Hay wants to omit Clause 11.

Roumanian Tax on Syphons.

Mr. Lloyd-George, the President of the Board of Trade, has informed Sir Howard Vincent that the Tariff schedule appended to the recent Anglo-Roumanian Commercial Treaty does not provide for the rate of the Roumanian import-duty on syphons and mineral-water bottles. The rate of 4f. per 100 kilograms, established under No. 539 of the Roumanian General Tariff, applies to syphons and mineral-water bottles of capacity not less than 20 litres. Those of less capacity pay, under No. 540 of the Tariff, at the rate of 6f. per 100 kilos.

Russian Tariff.

Sir Edward Grey informed Sir Howard Vincent on July 19, in response to a question, that the Russian Government have not agreed to make any further reductions in their Customs duties. On Monday Sir Howard Vincent gave notice of a question asking the Foreign Secretary for details of the steps taken by the British Government to persuade the Russian Government to reduce its proposed augmented tariff on British goods.

Wellcome Research Laboratories.

Mr. George Greenwood has put the following question to Sir Edward Grey:

> Whether his attention has been called to a series of vivisectional experiments performed on dogs, monkeys, and other animals by Andrew Balfour, M.D., at the Wellcome Research Laboratories, Gordon College, Khartoum; whether the Gordon College is under British control; whether the Wellcome Research Laboratories form part of such College, or what is their connection with it; how such laboratories are maintained, and whether or not by public money; whether vivisectional experiments are habitually performed at the Gordon College; whether the operators are subject to any inspection, regulation, or control; and whether such practice is sanctioned by the British Government or their representative in Egypt.

The Foreign Secretary replied that he had no information on the points mentioned in the question, but would make inquiries. The Gordon College, he said, is not under the control of the Foreign Office.

Mainly about Things that are New.

Kon-stips.

A New Remedy for constipation is now being placed on the home market by the Kon-stips Co., Cambridge Gardens, Kilburn, London, N.W. It takes the form of lozenges to which the trade-mark "Konstips" has been given. The company mean to advertise them extensively to the public, and as a preliminary they have placed Kon-stips on the P.A.T.A. list, the 1*s.* 1½*d.* size to sell at not less than 1*s.* All the patent-medicine houses hold stock of Kon-stips, and retailers can obtain them with their usual orders.

Wright's Bath Salt.

In these hot days few things are more refreshing than a wash or bath in water to which a good dash of Wright's coal-tar bath salt has been added. The salt is a crystalline product (sal carbonis detergens) impregnated with Wright's coal-tar solution, and is put up in pretty lever-top tins to retail at 9*d.* (minimum protected price 8*d.*), and it yields a good profit, for the ordinary wholesale price is 5*s.* per dozen. Messrs. Wright, Layman & Umney, Ltd., are putting an advertisement of the salt in every box of Wright's coal-tar soap, so a demand for it is practically certain, independent of the fact that it is an article which should sell itself when displayed.

Southall's Compressed Towels.

Messrs. Southall Bros. & Barclay, Ltd., Birmingham, announced last week the introduction of a series of their well-known sanitary towels in compressed form. They are exceedingly compact, and the carton in which each is enclosed strikes us as being a decided improvement. The carton has pull-out ends which enable the user of the towel to push the latter out, then she finds that on each side of the little block is a piece of blue tape; pulling these the towel expands, also springs into its natural form, for the blue tapes are the loops by which the towels are kept in place when worn. The towels are of excellent quality, the material being highly absorbent, soft, and antiseptic. Size A retails at 1*d.*, B at 1½*d.*, and C at 2*d.* The exact sizes of the packets are represented in the makers' advertisement.

"Liverpool" Rats and Mice Virus.

Messrs. Evans Sons Lescher & Webb, Ltd., Liverpool, continue to receive striking testimonies to the efficacy of this virus in the extermination of rats and mice. One of the latest is from Mr. W. Harris, Superintendent of Public Gardens and Plantations, Kingstown, Jamaica, who, speaking of a storehouse which was overrun with rats that defied poisons and traps, tried a tube of the Liverpool virus, and

> Within a week of using the virus there was not a rat to be seen in the building. They disappeared as if by magic, and no dead bodies were seen anywhere near. We were quite rid of them for fully three months, when traces of rats again became visible, but a tube of fresh "Liverpool" virus at any time is sufficient to clear the building.

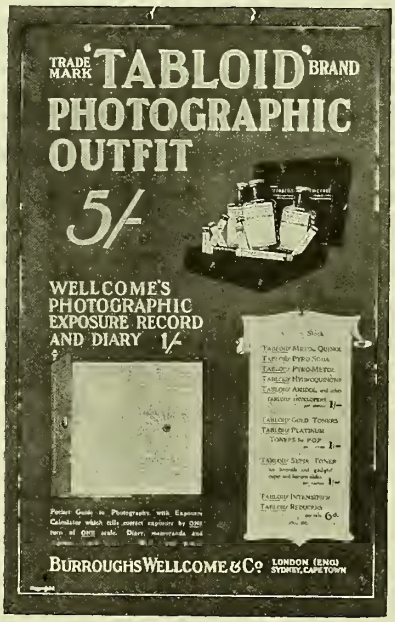
The firm inform us that the virus comes within the recent recommendation of the Board of Agriculture.

Bath Gloves and Straps.

Messrs. Solport Bros., 188 Goswell Road, London, E.C., are well known to chemists in the British Empire as actual makers of certain classes of goods for which there is a constant demand, and their products are noted for elegance of finish and moderation in price. We have before us several specimens of their latest novelties in bath gloves and straps. The "Haslemere" series of gloves are three in number, graduating from No. 1, a cheese-cloth like material with interlacing pink mesh, which will please those who have delicate skins. In No. 2 the texture approaches the honeycomb and is slightly harder; while No. 3 has one side soft and the other is a corrugated surface, sufficiently hard to make the skin tingle pleasantly when it is rubbed with this side of the glove. The "Frictor" is a new material for gloves and straps. One side of this is a bleached canvas relieved by a diced pattern in colours. The reverse is the friction-surface, which in the case of the glove consists of looped strands of hard fibre in rows that produce a glowing warmth when rubbed on the skin. The strap is similar, but it is as Wilton carpet to the glove's Brussels, and a gnarled surface of woven material at each end of the strap gives the skin just that tingle which is so refreshing to the torpid skin. We think our readers will find these novelties well worth looking into, and Messrs. Solport Bros. will be pleased to give them further information as to prices, etc.

"All Prizes and no Blanks."

That is the motto which Daisy, Ltd., Mammoth Works, Leeds, appear to have adopted for their new "Daisy" window-dressing competition. Every competitor is to receive a special allowance of 1*l.* off his account, and all will share in opportunity of receiving valuable prizes.



This is a reproduction of a coloured showcard, 20 in. by 13 in., which Messrs. Burroughs Wellcome & Co. are supplying to their customers.

When you Need to Advertise

do it in The Chemist and Druggist. Newbery's new catalogue opened on the page in which the above sentence occurs. We observe that "Newbery's Catalogue" has reached the classical degree and is now printed in "quotes." It is a catalogue of "druggists' sundries, medicines, perfumery, mineral waters, etc.," together with a great deal of information about the fiscal matters and the legal aspects of the sale of arcana, which it would profit every retail chemist in Great Britain to read at least once a week. The reason for this is that Messrs. F. Newbery & Sons succeed in gleaning this department of knowledge so well that the retailers get in the pages devoted to this subject just those things they want to know and should. The catalogue of proprietary articles extends to 454 pages, and the rest is sundries, etc. The frontispiece this year is a collotype picture of the "Funeral procession of the late Lord Viscount Nelson at St. Paul's, January 9, 1806. On the

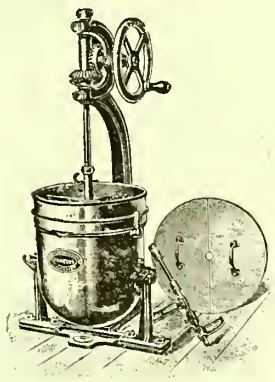
left is shown the Newbery House of that day." The house is one which we have frequently pictured. To us this catalogue is like the annual report of the Registrar-General : it shows the mortality, etc., in the proprietary-medicine field, and Messrs. Newbery put the matter so precisely that we cannot do better than quote two of the opening paragraphs :

> Notwithstanding that the trade in proprietary medicines notoriously yields but a very moderate profit to many of those engaged in it, the number of new goods added since our last catalogue was published is considerable. The alterations generally in this section of the list may be briefly summarised as follows, viz. :
>
> | | |
> |---|---|
> | Entries Removed ... ... | 822 |
> | New Entries ... ... | 421 |
> | Quotations Modified ... ... | 856 |
>
> The modifications will be found, on close examination, to be largely, if not chiefly, in favour of the *retail* buyer. The number of proprietary goods on the sale of which a fixed profit is efficiently reserved has again appreciably increased, and these have been indicated by the letters P.A.T.A. specially cast for the present work. Articles on which a profit is intended to be reserved by individual manufacturers whose goods are not on the protected list of the Proprietary Articles Trade Association are again indicated by the letters F.M.R.

The catalogue will be ready for distribution in about ten days, and all who want a copy of it should drop a postcard to Messrs. Francis Newbery & Sons, Ltd., 27 and 28 Charterhouse Square, London, E.C.

Liquid-straining Machine.

MESSRS. WILLIAM GARDNER & SONS (GLOUCESTER), LTD., have put on the market a new machine made according to Holdsworth's patent for straining liquids of various kinds, including galenicals. The apparatus mechanically keeps the gauze or cloth strainer from being blocked up by suitable movement of a brush or dasher over the surface. It is made for hand or power, and of any capacity. The material is poured into the receptacle formed by the sieve, and brushes or dashers, according to material under treatment, are then lowered and started to work on the strainer. After all the liquid has been strained, the refuse can be removed, also the sieve, and the agitator shown instantly affixed in place of brushes, and the strained liquid agitated as long as desired in either direction.



The Extra Pharmacopœia.

WE received one morning this week a bulky bundle of proof-sheets of the twelfth edition of "the Extra Pharmacopœia of Martindale and Westcott," which a fortnight hence will be available as a compact volume printed on that India paper which helps publishers to put big classics in the pocket. The parcel recalled an incident of which the writer was a spectator about five-and-twenty years ago. An eminent pharmacist had returned from London, and to a group of his *confrères* he showed a copy of the first edition of the Extra Pharmacopœia which he had received from the late William Martindale. The group examined it critically; what book-lovers call "the format" appealed to them, and they picked out the Martindale characteristics. Few of the group now survive. The individuals comprising it were men who had made their mark in pharmacy; they were, perhaps, a trifle conservative in their notions, but that circumstance made their appreciation of the first edition all the weightier. We are now dealing with the twelfth edition, prepared by Dr. W. Harrison Martindale, who took up his father's work during his lifetime and had full charge of the revision. In an "inset" in this issue the publishers describe the volume fully, ending with the practical observation that the book is "10*s.* net or 10*s.* 3*d.* post free anywhere." Now it is the pharmacy of the volume that we wish to speak about, and nothing in it is more striking than the inclusion for the first time of chemical formulæ for everything which has one, and the molecular weight of each of the substances calculated by Mr. F. F. de Morgan, F.C.S., on the basis of the International Committee on Atomic Weights 1906 Report, the B.P., and U.S.P. We observe, by the way, that Dr. Martindale has received the sanction of the U.S.P. Commission to use the U.S.P., they having extended the copyright privileges to him. This twelfth edition incorporates all the standards of recently published Pharmacopœias, even the Belgian, which is reviewed in this Summer Issue, being referred to fully. Perhaps a few quotations from the new edition may help to illustrate how the book is kept up to date :

> HYDRARGYRI GLYCOCOLL, HYDRARGYRI AMIDO ACETAS $(C_2H_4NO_2)_2Hg$=345.84 (348.144 I. Wts.).
>
> Manufactured by dissolving freshly precipitated mercuric oxide in the acid. 1 per cent. injections are employed.
>
> BETAINE. $\begin{matrix} CH_2.N(CH_3)_3 \\ | \quad | \\ CO—O \end{matrix}$ =116 25 (117.128 I. Wts.).
>
> TRIMETHYL GLYCOCOLL. Occurs in Beta vulgari. It is formed on oxidation of choline (a non-poisonous syrupy fluid $\begin{matrix} CH_2.OH. \\ N\equiv(CH_3)_3 \\ OH \end{matrix}$ =106.34 (107.144 (I. Wts.).
>
> A decomposition product of lecithin. Has been found in a number of vegetable and animal substances.
>
> Dixon draws attention to the fact that betaine choline, muscarine and neurine have allied chemical constitution, toxicity increasing in the order written.
>
> * * *
>
> An employé in the author's laboratory (1905) ate a piece of the nitroglycerin mass weighing about 2 oz., mistaking it for ordinary chocolate. A bad headache supervened, necessitating his lying down, but he was at work again the following day.

These quotations are from half a dozen only of the 350 additional pages in the new edition, and we have selected them as typical of the nature of the information which helps to make it practically a new book. It will be obtainable from W. Martindale, manufacturing chemist, 10 New Cavendish Street, London, W., or from H. K. Lewis, 136 Gower Street, London, W.C. There is an order-form in the inset which may be used for obtaining the book.

Some Attractive Toilet Specialities.

MR. W. BONSER HAYWARD has started business on his own account at 17 Lawrence Lane, London, E.C., having secured agencies for T. Jones, Manufacturer of Perfumery, 23 Boulevard des Capucines, Paris, and S. Hornemann (formerly Johann Maria Farina, Gegenuber dem Richartz Platz, Cologne). Mr. Hayward is also an importer of French extracts, Bulgarian otto, and of fancy and dressing combs, samples of which may be seen at his showrooms. The preparations of T. Jones are interesting, and already enjoy distinction among the well-to-do in London and Paris. Fluid Iatif is a cosmetic which soothes the skin and prevents roughness, especially in hot climates. It is used along with La juvénile face-powder. Lait Iatif (Lily Wash) is a similar preparation that contains a cosmetic-powder (three tints). It is quite popular in the West-end. We have also had the opportunity of sampling Mr. Jones's perfumes, of which there is a wide range, the odours being excellent and the styles of packing good. Mr. Hayward invites application for price-lists and quotations in respect to any of the lines he handles.

Perfume Catalogue.

THE new catalogue of Messrs. Osborne, Bauer & Cheeseman, manufacturing perfumers and soap-refiners, 19 Golden Square, Regent Street, London, W., gives a good idea of the style of the perfumes and soaps which this firm make. The illustrations are beautifully produced, and are printed on paper which shows up every detail of the blocks. The introductory notices are printed in three languages, and a money-equivalents table is given for American, French, German, Russian, and Danish customers. It is to Mr. J. E. Holdsworth, one of the partners of this firm, that the drug-trade owes several special pieces of apparatus for filling collapsible tubes and straining and mixing.

Summer Supplements.

It is long since such a large variety of insets as are in this number have been sent out at one time to the drug-trade. The Summer Issue of the *C. & D.* is one of the two occasions in each year when advertisers can address buyers of their goods in this manner. It is a method which originated with this journal, and we are naturally flattered that advertisers find it one of the most economical means for fostering and securing business. It has been an interesting study to watch the increasing favour with which insets are regarded. In a measure this is due to the fact that our subscription list is universal in character. Our subscribers are not confined to a particular section of the drug-trade, but include retailers, wholesalers, manufacturers, and merchants. Moreover, the circulation, besides covering the home trade in the most effective manner, includes a Colonial and foreign *clientèle* unique in influence and number. Through our Australian offices we ensure delivery to buyers there duty-free. Being thus assured of an unique circulation, advertisers do not hesitate when they have anything to tell chemists to do it through The Chemist and Druggist. To the readers of the *C. & D.* we would add that it always pays to read the advertisements in the *C. & D.*, and that among the insets will be found some good business offers worth taking advantage of.

The next opportunity of inserting insets with The Chemist and Druggist will be in the Winter issue, to be published on January 26, 1907. The Publisher will be pleased to supply particulars to those who contemplate using this method of publicity, and can advise as to the best ways of drawing up circulars, illustrating, etc.

The following are brief particulars, in alphabetical order, of the insets sent out with this number, the figures at the end of each note indicating the position in the advertising pages.

Aerators, Ltd., Edmonton, London.—The inset enclosed by this company takes the form of a description of the factory where "Prana" sparklets are made, and the method of making and filling the sparklets. It is an interesting inset. The reader is taken through the processes of making the Prana sparklet syphon from the tin alloy to the wire covering. The construction of the sparklet bulbs is then dealt with, and as most chemists have wondered how these little steel capsules are filled, this part of the inset is bound to be read with interest. Having had the pleasure of seeing the process in work we can testify that the description is by no means overdrawn (pp. 32 and 33).

Allen & Hanburys, Ltd, Plough Court, London, E.C.—A handsome sixteen-page inset is sent out with this number by this company. It is a fine example of three-colour printing, and is designed in a pretty shade of green. The illustrations are of leading lines in packed drugs, perfumes, and toilet-soaps, and show an unsurpassed variety of tasteful styles. A condensed price-list is given, from which it will be seen that it has been possible to combine reasonable prices with a first-class get-up. Messrs. Allen & Hanburys might almost have organised a competition as to which is the prettiest page of their inset. It would have been difficult to decide the question, but we should have voted for the page headed "Perfume Novelties" (Loose).

Baiss Bros. & Stevenson, Ltd., Jewry Street, London, E.C., have an inset which refers to a system of special quotations to buyers abroad which enables the net cost of each line to be seen at a glance. The following special articles are enumerated, all being suitable for adoption by chemists: Emulsion of cod-liver oil with hypophosphites, Dr. Mackenzie's Malted Food, Dr. Mackenzie's Milk Food, Compound Elixir of Damiana, Effervescing Lithia Tablets, Krysyl, Syrup of Figs, Carlsbad Salt, Sandal Capsules, and the Othniel Brand Santal Perles (pp. 32 and 33).

Barker's Photo Co., Windermere.—The inset of this company is of particular interest at a time of year when so much photographic work is done. The company are printers and enlargers of photographs for the trade, and make promptness in the execution of orders a feature. Some special lines which chemists can take up are noted, and will be found very suggestive for those who have not developed this side of the photographic business. Amateurs are often remiss in printing from their negatives, and if reminded that the work can be done for them in a few days at less than it costs to do it on a small scale they would often get work done by their photographic chemist. The chemist passes it on to Barker's Photo Co., and all ends happily (pp. 64 and 65).

Brunner, Mond & Co., Ltd, Northwich, Cheshire, tell of the advantages of mineral-water bicarbonate for the production of carbonic-acid gas for aërating-purposes. A special offer is made to mineral-water manufacturers, and directions are given which will show those who have been accustomed to use whiting that bicarbonate has distinct advantages (pp. 64 and 65).

Jas. Burrough, Ltd., Cale Street Distillery, Chelsea, London, S.W., devote an inset to industrial alcohols—s.v.r. and s.v.m. The methylated spirit is stated to be white in colour, and "exceptionally free from unpleasantness." The company also deal in chemists' wines and the "Red Cross" whisky (pp. 32 and 33).

W. J. Bush & Co., Ltd. (Proprietors of Buisson Frères), Ash Grove, Hackney, London, have two insets. One of these, with an attractive Japanese young lady in front, gives particulars of their specialities in perfumery. These are the latest introductions, and are an advance in style on previous packings, although that had seemed to us to have been well nigh impossible. Series Imperial, scents from flowerland, June roses, Alpine violets, Rosalidis d'Egypt, Fleurs d'Orient, Eveil des Fleurs, and Violettes Printannières are the principal new perfumes. On the last page of the inset the oldest English perfume—Potter & Moore's lavender water—is dealt with.

The second inset has on the front page a striking picture of the world, over which "Bush's fruit essences excel." It refers to these fruit essences and essential oils. The essential oils of the British Pharmacopœia are enumerated, and a guarantee is given that the oils are absolutely pure and will pass the B.P. tests (pp. 32 and 33).

Butler & Tanner, Frome, Somerset, make a feature in their business of catalogue-printing. To emphasise this fact is the object of the circular the firm send out with this issue. Stress is put upon the necessity of investing printed matter with attractive, interesting, and influencing properties (pp. 162 and 163).

Arthur H. Cox & Co., Ltd., Brighton, give "a few special prices" for Cox's pills and tablets under their well-known cabalistic sign. Most of the company's prices are generally regarded as special, and the lithia tablets, compressed tablets, and tasteless coated pills which are particularised in the yellow pages of their inset are but

indicative of the value and quality of all their products. Chemists will do well to consider the counter-stand suggestion on the last page of the leaflet, particulars of which are given to applicants (pp. 130 and 131)

Digena Tea Co. (Regd.), 6 Lloyd's Avenue, London, E.C., prepare a tea which is reserved for chemists' sale. It is claimed that the tea is so blended, without being medicated, that it is especially suited for use by dyspeptics. This is just the kind of tea a chemist would be able to sell, and the more so if the local medical men were interested by having samples sent them (pp. 64 and 65).

Robert Ferber & Co., 191 to 195 Southwark Bridge Road, London, S.E., insert a complete price-list of soluble gelatin capsules. It will surprise many people to see the variety of medicinal capsules employed—it seems as if a capsule pharmacopœia will soon be needed. For the present, however, "Hebe" brand is the mark that should be used when Ferber's soluble capsules are required. Capsuled ointments are the latest introduction. The whole list should be carefully studied, as it contains many points of interest (Loose).

C. J. Hewlett & Son, Charlotte Street, London, E.C., enumerate in their inset special lines in packed drugs, giving facsimiles of the packages, so that purchasers may judge of the style in which the goods are put up. The Malto preparations have a page devoted to them, from which the various combinations of Malto will be seen (Foreign copies only). Since the foregoing was written Messrs. C. J. Hewlett & Son have sent for our inspection specimens of the cartons which are represented on the first page of their inset. Effective though the reproductions are, the originals are even more striking. For example, the saline carton looks as if it were moulded in Wedgwood porcelain. A similar design to this is executed in colours and gold, the bunches of fruit being in natural colours. The cod-liver oil carton illustrated is relieved with gold, which gives it a brighter appearance than in the three-colour process reproduction. Altogether the varieties and styles give retailers an excellent choice for counter specialities.

Ichthyol Company, Cordes, Hermanni & Co., Hamburg, show what the original tins of ichthyol are like, and also reproduce the labels, so that purchasers may identify the genuine ichthyol. On one side of the circular will be found an able summary of the medicinal uses of ichthyol, which will be convenient to keep for reference and to bring under the notice of prescribers (pp. 130 and 131).

International Plasmon, Ltd., Farringdon Street, London, E.C., insert a revised price-list of Plasmon preparations, which is intended to be detached and filed for reference. There is also a special offer of an assortment of Plasmon goods for 1*l.*, the offer being intended for those who have not previously stocked these products (pp. 64 and 65).

Samuel Jones & Co., 56 Carter Lane, London, E.C., have a somewhat novel inset. It is a sheet of gummed paper which will not curl. Curling has generally been looked upon as an inherent property of gummed paper, and chemists will not regret that as a result of systematic study Messrs. Jones have succeeded in producing a paper which remains quite flat. The use of this paper by the label-printer results in combating one of the best-known troubles of the label drawer (pp. 64 and 65).

Koko-Maricopas Co., Ltd., 16 Bevis Marks, London, E.C., give particulars of a 1,250*l.* prize-scheme in connection with purchases of Koko, of which 250*l.* is to be the chemists' share, 1,000*l.* in guinea prizes going to the public. Full details of the scheme and particulars of the advertising campaign in connection therewith are given in the company's supplement. They further offer payments to chemists for displaying their window-bills reproducing the question which forms the basis of the scheme. A blank order-form for Koko is given (pp. 32 and 33).

Leighton, Son & Hodge, 16 New Street Square, Fleet Street, London, E.C., devote their inset to albums for photographs, postcard albums, autograph albums, and scrapbooks, giving illustrations of some newer lines. Many chemists have taken advantage of the popularity of the picture postcard to add to the profits of the photographic side-line, and as collectors need albums for storing the postcards, chemists should have at hand a selection (pp. 64 and 65).

McKesson & Robbins, New York, London Agents Messrs. S. Maw, Son & Sons, 7 to 12 Aldersgate Street, London, E.C., have an inset devoted to McK. & R. capsuled pills and Calox. The picture of Atlas supporting a capsuled pill will attract by the striking contrast that has been obtained in colours. A price-list of the leading varieties of capsuled pills is given on the two inner pages, but we learn that since it was printed the prices of quinine pills have been reduced. The last page of the inset is devoted to Calox, the now well-known oxygen tooth-powder. Mr. A. C. Wootton, 14 Trinity Square, Tower Hill, London, E.C., is the British agent for Calox, for which a large demand is being created by extensive advertising. It is a good line to stock (pp. 130 and 131).

W. Martindale, 10 New Cavendish Street, London, W., devotes an inset to the "Extra Pharmacopœia," by W. H. Martindale, Ph.D., F.C.S., and W. Wynn Westcott, M.B.Lond., D.P.H. The new edition (the 12th) is to be published soon, and the purpose of the circular is to briefly outline the extent of the revision. The book is so well known in the drug-trade that it is unnecessary for us to urge its claims, but it should be noted that the alterations made in this edition are such as make other issues quite out-of-date, and a purchase of the new volume indispensable to progressive pharmacists. The "Extra Pharmacopœia" can certainly claim to be the most modern work of its kind (pp. 64 and 65).

May, Roberts & Co., 9 and 11 Clerkenwell Road, London, E.C., have an inset which consists practically of an invitation to send for the firm's complete price-list. Part of the circular is perforated, so that it can be detached and used as a postcard request for the list, the new edition of which will be ready by the time this issue of The Chemist and Druggist reaches the trade (pp. 32 and 33).

Monpelas, Paris: William Toogood, Ltd., Heddon Street, Regent Street, London, W., sole agents for the United Kingdom, have a pretty inset illustrating some of their leading lines in perfumery and toilet articles. The pictures, being in colours, show nicely the dainty character of these well-known French products. Superba Violetta, Coronis, Paradis fleuri, Malaceïne, and rose Maréchal Niel preparations are both illustrated and priced. It will be noted that each speciality is put up in several forms, such as perfume, powder, and soap, and that the illustrations are reproduced to scale (pp. 32 and 33).

Newball & Mason, Nottingham, entitle their inset "Smart Hints for Business Men." It scarcely needs a hint to stock Mason's herb beer and other beverages this hot weather, but as there may still be some who have not studied the question of supplying the popular demand for non-alcoholic beverages, we advise a careful perusal of this inset (pp. 64 and 65).

A. & F. Pears, Ltd., 71-75 New Oxford Street, London, W.C., briefly recapitulate their trade terms for Pears' soap. A reproduction is given of the gold medal awarded at the Paris Exhibition of 1900, which is regarded as the blue ribbon of the soap-maker. This is only one of the awards won by Pears' soap, but it is noticeable that in every case

this soap has carried off the highest award (pp. 32 and 33).

Powell & Barstow, Ltd., Nelson Place, 246A Borough High Street, London, S.E., have a four-page inset which is devoted to illustrating and pricing some special lines in gum elastic and india-rubber surgical instruments and druggists' sundries. These quotations are intended only as a foretaste of the larger price-list, which readers of the inset are invited to send for. The business carried on by this company has been in existence for seventy-five years (pp. 162 and 163).

Price's Patent Candle Co., Ltd., London, Liverpool, and Manchester, devote an inset to toilet-soaps which they manufacture and exclusively reserve for sale by chemists. In the inner pages of the circular will be found illustrations of representative lines in soaps, which show the artistic wrappers and boxes employed. The quality of the soap is guaranteed, so that the wrappers attract and do not deceive the purchaser. The Regina toilet-soap is the *ultima thule* of the soap manufactured by Price's Patent Candle Co. (pp. 32 and 33).

Reitmeyer & Co., 63 Crutched Friars, London, E.C., give in their inset a list of the Tiger brand chemicals for export, which include many chemicals classed as new remedies. One page of the circular is devoted to enumerating the chief rubber goods, for which Messrs. Reitmeyer hold the agency from a Bavarian company (Foreign copies only).

Rudduck & Co., 262 Old Street, London, E.C., show in their inset representative lines in chemists' shop-fittings. Particulars are given of shop counters, wallcases, wall fittings, dispensing-screens, counter-cases, nests of drawers, and perfume-cases, from which it is possible to completely estimate the cost of the fittings of a chemist's shop. This is not the primary object of the inset, as it is best to obtain from Messrs. Rudduck special estimates, according to the size and position of the shop (pp. 162 and 163).

Spottiswoode & Co., Ltd., 5 New Street Square, London, E.C., have special facilities for executing orders for high-class printing, and in an inset show the kind of work they are accustomed to produce on a commercial scale. Messrs. Spottiswoode & Co. cover the whole field of printing, and are always ready either to suggest or to carry out new ideas in typography (pp. 64 and 65).

A. Sanderson & Co., Hull, makers of paints, colours, and varnishes, enumerate their specialities which chemists may profitably stock. Ready-mixed, and quick-drying varnish paints, "Medal" brand enamels, and artists' oil colours, "Kingston" varnishes, and "Medal" furniture-cream and boot and hat polishes are all articles which, judging from the queries relating to such household requirements which are always being addressed to our information department, form no unimportant part of chemists' business. A blank order-list is a useful feature of the inset (pp. 32 and 33).

The Standard Tablet and Pill Co., Hove, Sussex, insert their complete price-list in this number, which readers will know by its blue cover, adorned with a figure of the god of healing. The list is well arranged for reference, and a glance will show that the company have considerably outgrown their title, judging by the varieties of galenicals they manufacture. This is one of those lists which it pays a "live" chemist to read, as a good deal of information can be gathered as to the popularity of the various preparations. Solvads are tablets for external uses. A good range of capsules is particularised, and also suppositories and glycerin lozenges (Loose).

Stevenson & Howell, Ltd., Southwark Street, London, S.E., have a tasteful inset referring to their fruit and soluble essences. Autolycus, the witty pedlar of "A Winter's Tale," is calling attention to these essences for summer trade, "which defy competition for quality, and make trade for the user." The other side of the inset is a pictorial representation of the expression "the summit of perfection" to which S. & H.'s Perfect Soluble Essence of Lemon has reached (pp. 64 and 65).

Strobin (agents, Thomas Christy & Co.,4, 10, and 12 Old Swan Lane, London, E.C.,) is the subject of a single-page supplement which cannot easily be overlooked because of its characteristic printing. It is claimed to be the best and cheapest powder for washing straw and rush hats. Strobin is put up in boxes of sixty 3*d*. packets, and with each box two showcards printed in bright colours are supplied (pp. 162 and 163.)

W. Wade & Son, Plymouth, tell of the marvellous properties of "Liquid Ice"—the short title of Wade's Instant External Fever Destroyer. It is a lotion for external use in febrile complaints, and is credited with marvellous powers of reducing temperature. These claims are backed up by some testimonials. It is a preparation which chemists who live in sunny climates should be acquainted with (Foreign copies only).

William R. Warner & Co., Philadelphia (Francis Newbery & Sons, Ltd., British Depôt, Charterhouse Square, London, E.C.), in a pale-blue inset particularise their leading lines in pills and tablets. Note should be taken of the series of put-up pills and tablets detailed on the inner pages, as special facilities are given for making these into chemist's "own" lines. There are other Warner specialities referred in the inset, these including Tono Sumbul, cascara elixir, elixir glycerophosphates comp., syrup. tolu and heroin comp., formin laxative compound, ingluvin, obesity tablets, and lithia tablets (pp. 130 and 131).

Information Wanted.

Inquiries for the names and addresses of manufacturers, or other trade information, not traceable by reference to the advertisement-pages of "The Chemist and Druggist" and the "C. & D. Diary," or not filed in our private register, are inserted here free of charge. Postcard or other replies to any of the s ubjoined inquiries (addressed to the Editor "The Chemist and Druggist," 42 Cannon Street, London, E.C.) will be esteemed.

108/6. Who are the makers of "Empire" brand plasters?

103/52. Who puts up Bartlett's camphor balls for killing moths?

109/66. The present address of the Ivorine Co., late of Holbeck Lane, Leeds.

Society of Chemist-opticians.

A Council-meeting of this Society was held on Wednesday at the St. Bride Institute, the President (Mr. W. H. Crosland) in the chair. The following chemists were elected members: Messrs. J. H. P. Bolton, London; T. Brierley, Long Eaton; E. Corner, Richmond; H. C. Dadson, Manor Park; W. J. Dunwoody, Ballybay; R. A. Easton, Winslow; F. Fearnley, Leeds; A. A. Gillitt, Gravesend; J. Grayson, Cleator Moor; F. Hart, Bolton; D. Hendry, Renfrew; J. F. Hogg, North Shields; S. Lester, Lynton; J. H. Low, Fraserburgh; J. P. Moffatt, Camborne; A. Peverill, Bishop Auckland; T. J. Rees, Skewen; T. L. Slater, Southall; W. F. Turner, Totnes; and J. E. Wormald, Chiswick.

The following were elected assistants: Messrs. A. R. Fox, Sheffield, and S. T. Pattinson, London.

In recognition of his valuable services to the optical industry, Colonel T. Davies Sewell, F.R.A.S., F.R.S.L., was elected the first hon. member.

The Secretary reported that he had received further donations of books for the library from Mr. C. J. G. Bunker (Twickenham) and Mr. E. Corner (Richmond).

Committees for the year were also appointed.

Observations and Reflections.

By Xrayser.

The Respite

of pharmacy legislation at least until the autumn Session gives chemists an opportunity of reconsidering their attitude towards the Government Bill. The official body has perhaps committed itself too completely to oppose it energetically now, but it might at least take up a watchful if neutral position until such time as it shall be invited by the framers of this measure to assist in revising it. An idea seems to exist in some quarters that we are going to lose something if the Bill fails to get through. The advantages it offers are far more than balanced by its injuries, so far as pharmacists are concerned. Its special purpose is to create a class of licensed poison-vendors. The poisons they are to sell are for the moment limited to a few of the more deadly ones, but it is absurd to suppose this limitation will last long. In view of the report of the Privy Council Committee it would be useless to argue against the public policy of this innovation, but chemists can hardly be as convinced of its desirability as are Mr. Alexander Cross and Mr. Richards, the "XL-All" manufacturer, so they need not take off their coats to help these gentlemen. The clause providing for precautions in the sale of mineral acids and other dangerous chemicals is on a different footing, and chemists would be ill-advised to put any obstacle in the way of its enactment.

The Bill provides, besides,

for certain of our own proposals. It clears the way for a curriculum, and also for the recognition of Colonial diplomas. We are certainly not unanimous in wanting either of these, and both will lead to friction if granted. The conspicuous display of the name of the person who *bona fide* conducts the business is another of our own inventions, and it is one which can be defended. But we are not in glaring need of it, and there are some obvious objections to it in practice. One of the smallest of these is the family heartburnings which will ensue from it. The old gentleman who looks in for an hour or two a day fancies that it is he who really conducts the concern, and that it would go to pieces if it were not for his experienced supervision. Whose name will figure in his shop? Worst of all, the Bill legitimatises the company usurpation of qualification to keep open shop, and our descendants, who will be merely department managers for rich grocers, will blush when they remember that we connived at that surrender. As for the titles of seven years hence, assuming that we establish our claim to the statutory one, let us not forget that there are others, or that the old fascias which now irritate us will be poor and dingy by the side of the brilliantly gilded ones seducing customers to the "dispensing pharmacies" of the future.

Sarsaparilla-wine

as usually sold by herbalists is, I suppose, really made from sarsaparilla-root, but if so even the Inland Revenue officers might refrain from classing the sickly stuff among refreshments. Of tastes it is not to be disputed, and there may be people who like sarsaparilla, but no doubt the majority of the revellers in it are influenced by the tradition that they are taking something which will assuredly purify their blood. Not many medicines have established such a reputation and kept it so long on such beggarly evidence of merit. Sarsaparilla, too, like some humans, owes its fame largely to a skilful exploitation of its associates. It was introduced to Europe early in the sixteenth century, and in its youthful days leaped into fame because the great Emperor Charles V. was cured of gout by it, or fancied he was. It was, however, another smilax, China root, which was used in this case; but it was called sarsaparilla, and the Western medicine got the glory. For syphilis it was specially advocated, but it was found more effectual if combined with mercurials. It was vaunted as a wonderful sudorific, and at one time a regular "sweating-cure" had great vogue in Denmark and Sweden, with sarsaparilla as the active agent. In truth, sarsaparilla has practically no sudorific properties at all; but it was given in long draughts, other more effective medicines were combined with it, and exercise and blankets were also employed. The adjuncts did the work, but the sarsaparilla was the object of faith.

Other Confusions

have distinguished its history. The origin of its name is by no means ascertained. Some authorities attributed it to *sarsa*, red, and *parilla*, a little vine. Littré derives it from *zarza*, a bramble, and Parilla, a supposed Spaniard who helped to introduce it. The native Indians call it *salsa*, and the French still call it *salsepareille*. Linnæus selected what he thought was the medicinal species and named it *Smilax Sarsaparilla*. It has since been discovered that this is about the only one of the two hundred species which is not used medicinally. It is a native of America, but is not found further south than the state of Virginia. It is a small addition to these confusions to mention that Jamaica sarsaparilla comes from Central America.

The Federation

deprecating "a multiplicity of organisations," eagerly protesting its loyalty to the Pharmaceutical Society, and pleading for amalgamation with the Chemists' Defence Association, is not too edifying. No one has charged this amiable body with *lèse*-Bloomsbury. Some people have fancied that a slight infusion of that vice when occasion offered would have demonstrated the usefulness of the Federation's existence. It is difficult to perceive the necessity of multiplying organisations for the mere purpose of dotting the i's of another organisation. The appeal to the C.D.A. has an uncomfortable resemblance to cupboard-love. The Federation wants an office and a paid secretary. The C.D.A. possesses those luxuries; but they are provided out of funds subscribed for specific purposes by shareholders, whose representatives will be bound to ask the Federation what are the assets it proposes to bring into the pool.

The British Medical Association,

through its active "Medico-Political Committee," is prolific in resolutions. It is still nursing its hopeless Medical Bill, which proposes a possible penalty of 100*l.* and six months' imprisonment for any legally unqualified person caught practising medically, surgically, or dentally for gain. It now resolves, however, that the Bill shall be withdrawn if any amendment be introduced in Parliament likely to prejudice practitioners in any way. A prudent precaution; but still safer will it be for the Association to keep the draft of the precious Bill which is not to be touched by profane hands in the security of its own office. The Education Bill, Trades Disputes Bill, the Income-tax, the Sight-testing Opticians' Bill, the Vivisection Commission, and other subjects came under the scrutiny of this all-surveying committee, and it would have been sad if patent medicines had been neglected. One queerly expressed resolution in regard to these old offenders was that "for medicines which are supplied otherwise than upon medical, dental, or veterinarian prescriptions no condition of sale short of the publication on each packet of medicine of the name and quantity of each of its constituents should be permitted." The price is a condition of sale, and it falls short of the stipulated legend. Under the regulation as drafted, therefore, it would not be permitted. Other and more reasonable demands are that the label should constitute a warranty, and that false description on labels or in an advertisement should be an offence.

Editorial Comments.

A B.P.C. Lesson.

Presidential Addresses frequently fail to satisfy those who make them, as well as those who hear them, for their success is largely measured by the impression of the moment, and if an audience show signs of disinterest the speaker considers his effort a failure. This is the common standard of judgment in such matters, and that it is a false one requires little demonstration, since every thoughtful person knows that a man of nimble thought and facile pen can address an audience for half an hour, moving them to mirth or sadness, to loud acclamation or thrilling silence, and at the end of it all he has said nothing that can live. The British Pharmaceutical Conference may have had Presidents of that type, but Mr. W. A. H. Naylor is not one of them, and his efforts in the presidential chair at Birmingham this week cannot be measured by the conventional standard. We like his address because it reflects the man and his experience. It is well understood that Mr. Naylor's nomination to the presidency two years ago was the Conference's highest reward to him as a faithful officer, and a tribute to his worth as a pharmacist. In the circumstances, a conventional address from Mr. Naylor would have been the poorest acknowledgment he could have given of the compliment. He has preferred to be just himself, and following his address last year on the workability of official standardisation methods, he has this year drawn upon his practical experience in a survey on the subject of the valuation of drugs. He considered in this connection our present knowledge of the constituent principles of aloes, balsam of tolu, cantharides, cascarilla, euonymin, gelsemium, ginger, guaiacum resin, hops, lobelia, male fern, myrrh, senega, and veratrine. The plan of the address is simple, and the effort itself at first glance may strike the reader as something which the mere tyro in pharmaceutical literature might do after some days of bibliographic search; but there is one important element in Mr. Naylor's address which is lacking in most *résumés* of the kind—there is not a drug mentioned which he has not made the subject of personal investigation during his life in pharmacy. Hence we have a statement of

the world's present knowledge of these drugs filtered through the mind of a man who has expert knowledge in regard to them, and who is able from his experience to throw out suggestive lines of inquiry. We do not suppose that Mr. Naylor tried to set an example in his address: it is merely in the man's nature to talk only of what he knows about; but a distinct service to pharmacy is certainly done when a man in such an honourable position contributes something of permanent value to his *confrères* instead of giving a firework display of emotion. In this respect and brevity Mr. Naylor's addresses mark a new departure in the history of the Conference, and he sets his successor, Mr. Thomas Tyrer, a task which he may find difficult, but not impossible, of accomplishment.

B.P.C. Papers.

The communications made to the British Pharmaceutical Conference this week were on the whole up to the average, but none of them can be said to be epoch-making, and there were symptoms of manufacture for the occasion. There is also some indication that authors are disposed to empty the contents of their laboratory-books upon the Conference. That is not a deplorable practice for a teacher to require of a pupil, but it is not desirable nor creditable in men of matured experience and established reputation. In the notes which follow we give the leading points of the communications.

Strychnine Estimation.

The United States Pharmacopœia has adopted the Keller-Gordin method of estimating strychnine in mixtures of nux-vomica alkaloids. Messrs. Farr and Wright find it to be quite reliable if the process is conducted with care; but their experiments indicate that there is greater certainty of destroying brucine with the acid when the temperature is above normal—*e.g.*, 38° C. Incidentally they found that commercial brucine after destruction with nitric acid leaves a minute residue which is alkaloidal, but not brucine or strychnine. Is it a third alkaloid (as the authors suggest), or altered brucine?

Nux Vomica

Messrs. E. H. Farr and Robert Wright have done such good work for galenical pharmacy that they probably are entitled to some latitude as regards the manner in which they record the results of their investigations. The second paper which they communicated to this meeting was the fifth of a series on standardised powdered alcoholic extracts, and nux vomica was the subject. We daresay it is necessary in such a scheme of work to follow a general plan, but we question if literature gains, or if practical pharmacy is advanced, by such detailed records of the adventitious parts of a subject as are embodied in Messrs. Farr and Wright's paper. The subjects discussed included the alkaloids in the drug, the amount of strychnine in nux vomica, the assay of the drug, alkaloids in the extract, and the menstrua for exhausting the drug. The results obtained confirm in the main what was previously known The most notable point is the authors' recommendation to abandon valuation of nux-vomica preparations by the strychnine content, and to judge them by combined alkaloids which are fairly constant in proportion (about 1¼ of strychnine to 1½ of brucine), an additional reason being that brucine is physiologically similar to strychnine. Their method of making the powdered extract is the same as the B.P. one for liquid extract, but fat is eliminated by treating the percolate with paraffin wax, and the evaporated product is diluted with milk sugar or standardised powdered nux vomica.

These two papers were taken together and, with the discussion, occupied the time of the first session after the presidential address and the preliminary proceedings. The discussion, being the first, was lengthy, and while the speakers complimented the authors highly on the accuracy of their strychnine and brucine process, several criticised points in the nux vomica paper. It was questioned if the pharmacology of brucine warrants its inclusion with strychnine in valuing the drug; the authors' fat-removal process was also objected to, as well as dilution of the dried extract with nux vomica. The speakers were Messrs. D. B. Dott, J. C. Umney, E. W. Mann, F. H. Alcock, H. W. Gadd, J. R. Hill, T. Barclay, F. Ransom, H. E. Boorne, P. H. Marsden, and G. J. Knight, Mr. Wright replying.

Physical Chemistry in Pharmacology.

Dr. T. Slater Price's paper on "Some Applications of Physical Chemistry to Pharmacological Problems" was really a popular exposition of the theory of electrolytic dissociation illustrated pharmacologically by means of the anthrax-spore killing power of solutions of mercuric chloride, bromide, and cyanide. A homely exposition of this kind is a reminder that all retail chemists are not up to date in their chemistry, so, following Dr. Slater Price, we note that when ammonium chloride is vaporised by heat it dissociates into NH_3 and HCl chiefly, little of it going off as NH_4Cl. Similarly, when salts which are electrolytes are dissolved in water they dissociate—*e.g.*, in mercuric-chloride solutions much of the salt occurs as Hg ions and Cl ions, and comparatively little as $HgCl_2$. That is electrolytic dissociation—a theory rapidly advancing by experiment beyond the hypothetical stage to a proved law. In solution mercuric bromide dissociates less than the chloride, and the cyanide still less. Now, it has been proved by Paul and Krönig that solutions of these mercuric salts, of the same molecular strength, differ in their power of killing the spores of anthrax bacilli, and the difference is according to the electrolytic dissociation of the salts—in other words, it is the Hg ions that kill the spores and not the salt *per se*. Dr. Slater Price submitted figures to prove this, and pointed out the conditions in which electrolytic dissociation increases and decreases. The latter was reduced to the generalisation "If to the solution of a weakly dissociated substance is added a salt containing a common ion, which is strongly dissociated in solution, the dissociation of the former will be diminished." Thus, NaCl is more strongly dissociated than $HgCl_2$, consequently the addition of common salt to mercuric-chloride solution reduces dissociation of the mercuric salt and, therefore, the antiseptic power of their solutions. Dr. Slater Price added that Wade and Finnemore proved the presence of ethyl chloride in alcohol chloroform by physical methods, this being another illustration of his title.

Flora of the Lickey Hills.

Since Mr. G. Claridge Druce first ventured to address the Conference members on the flora of the district in which they meet, the charm of this diversion from pharmacy and pharmaceutical chemistry has grown. A meeting would not be complete without such a paper, and this year it was provided in Drucian manner by Mr. John Humphreys, L.D.S., F.L.S., Birmingham, who discoursed on the flora of the Lickey Hills. Mr. J. W. White (Clifton) and Mr. G. Claridge Druce (Oxford) expressed their appreciation of Mr. Humphreys' communication, Mr. Druce pointing out how geological formation influences flora.

Strophanthus.

No new remedy from the vegetable world introduced during the past twenty years has proved so valuable medically and so unsatisfactory pharmaceutically as strophanthus. The paper which Mr. E. W. Mann, of Messrs. Southall Bros. & Barclay's, contributed did not profess to add to our knowledge;

but he makes it clear that the higher education of the pharmacist does not go for nothing, in so far as one with the knowledge to determine the botanical source of strophanthus may by adding chemical experience ascertain whether the seed is reliable or not. Mr. Mann described a simple method for isolating strophanthin from the oil-freed seeds. From three out of four kinds of seed the yield of glucoside was practically the same (about 7 per cent.), but the seeds of *S. Nicholsoni* yielded less than 4 per cent. The important observation was that the glucosides varied greatly in physiological activity; the "strophanthin" from a commercial *S. Nicholsoni* being but slightly active, while 3.8 minims of *S. Gratus* was as potent as five of *S. Kombé*. *S. Gratus* is the German official drug, but Mr. Mann indicated that its physiological action differs in nature.

The discussion on the paper was informative. The President, Mr. A. W. Gerrard, Mr. Wright, and Mr. Umney took part in it, and the chief doubt was as to the identity of the "strophanthin" obtained in the assay process, Mr. Gerrard suggesting that it may contain sodium acetate and probably glucose.

Cocaine Ointment.

One of the shortest and most valuable papers read was on cocaine ointment, by Mr. R. A. Cripps. In his capacity as public analyst he examined four samples of the ointment and found them to be deficient in alkaloid—two of them being made with cocaine hydrochloride. He suspected decomposition of the alkaloid, and this was confirmed a year later, when, on examining the samples again, he found that the alkaloid had almost disappeared from the samples made with cocaine, but the hydrochloride ointments did not show so much decomposition.

This was the last paper read on Tuesday, and it caused some surprise, as well as pertinent remarks from the President, Mr. Wright, Mr. Umney, Mr. E. S. Peck, Dr. Symes, and Mr. C. P. Gilmour, all indicating that cocaine-ointment is worthy of closer attention by physicians and pharmacists. The following notes are on the papers read on Wednesday.

Birmingham Drugs.

We do not attempt to abstract here the paper by the Birmingham City Analyst (Mr. J. F. Liverseege, Ph.C.), in which he described to the Conference the quality of Birmingham drugs and dispensing as carried out in some Birmingham shops. A considerable number of articles were surveyed, and it is noticeable that all of them were not easily analysed preparations. The results generally prove that the drugs supplied by qualified chemists most nearly approximated to the character of Cæsar's wife, and it is satisfactory for the administrators of the Sale of Food and Drugs Acts to find that prosecutions in respect to any article is generally followed by improvement in the quality of the article afterwards sold.

Fibre in Drugs.

In notes on the determination of fibre in drugs, Mr. H. W. Jones commented upon the importance of microscopically examining the fibre as a means of determining whether a powdered drug is pure or not, and he submitted a method of "concentrating" the powder (*i.e.*, obtaining the fibre) which is rapid and accurate. The percentages of fibre in pepper, gentian, and liquorice were given.

Liquid Extract.

The attitude of Mr. D. B. Dott towards official methods of preparing liquid extracts is somewhat unorthodox, but there is a lot of common sense about it. He says the B.P. menstrua for belladonna, cinchona, hydrastis, ipecacuanha, and nux vomica differ unnecessarily. They may all be made with 60-per-cent. alcohol (and something else in one or two cases), and the corresponding tinctures may be made by diluting the liquid extracts. He also in his "notes" deprecated super-exactitude in estimating the alkaloids in such preparations—titration and a mean molecular weight for all alkaloids suffice in his opinion.

Nitrogen In Drugs.

Mr. F. H. Alcock's contribution to the Conference proceedings, apart from occasional illumination of discussions, was a paper in which he gave the results of about seventy-five determinations of the nitrogen yielded by as many kinds of seeds, leaves, barks, roots, corms, bulbs, wood, flowers, fruits, juices, and animal and other substances employed in medicine. Such figures occur in text-books, but usually without any indication of how they have been arrived at. Mr. Alcock worked by the Kjeldahl-Gunning process.

Malt Extract.

For the second time since this century commenced the Conference has received a posthumous communication. This was a paper in which the late Mr. Duncan Gair had assisted Mr. E. F. Harrison, who communicated it. The interest in the paper was centred in the report on the quality of thirteen commercial samples of malt extract, only four of which had a diastasic value above 250, and the best of the extracts in this regard was not a pharmaceutical one.

Moulding Bougies.

The "new" method of moulding bougies which Mr. A. W. Gerrard communicated is the same as described in the "Art of Dispensing," p. 196—viz., drawing the melted mass into a glass tube of suitable calibre. Mr. Harold Wyatt, of Bootle, was, we believe, the first to mention it in this country, and it is in effect the same as the cold method which has been followed in Germany and elsewhere for twenty years—*i.e.*, piping the mass and cutting it into suitable lengths.

Suppositories.

In making theobroma suppositories containing aqueous liquids difficulty is sometimes experienced in incorporating the liquids thoroughly. Soap is frequently employed for the purpose, but the Conference has called for suggestions in regard to emulsification. Mr. S. Taylor (with Mr. John A. Cope, Ph.C., Derby) responds with particulars regarding the use of 1 to 2 per cent. of sodium stearate and occasionally a little anhydrous wool-fat. The stearate (a pure soap) emulsifies 30 per cent. of water and the same of 45 per cent. alcoholic liquids.

Ammoniated Mercury.

Mr. Thomas Tyrer in a note on white precipitate said the formula $HgCl.N.H_2$ is that on which the percentage of mercury in this compound is calculated. It is not founded on experimental work. The B.P. gives 78 to 79 per cent. as the yield on "being heated with excess of lime," and examination of specimens has shown variation between 75.50 and 77.32 per cent. The reason for this variation is in all probability the presence of ammonium chloride, which is found in all commercial ammoniated mercury. This was the point of the communication, and the author submitted experimental results to show that if the trace of soluble chloride present in the compound is removed by washing, as the B.P. directs, the salt becomes distinctly yellow, and when dried becomes unsightly and unsaleable. He suggested, therefore, that the B.P. should permit a slight reaction for chloride.

Pepsin Incompatibles.

"The Activity of Pepsin after Brief Contact with Certain Inorganic Compounds" was the title of a paper by Mr. J. F. Tocher, which was in a sense a re-echo of the Fraserburgh scandal. The author gave details of the experiments he has conducted to show the action or inaction of pepsin on albumen when the pepsin is dispensed along with other therapeutic agents. He proved

that pepsin is destroyed by alkalies, that it is precipitated by bismuth carbonate, and its action retarded by morphine.

Mr. J. F. Tocher communicated a paper on the detection of citrates and tartrates. The method he described depends upon the fact that an alkaline solution of a tartrate becomes red on addition of cobalt nitrate, and blue on boiling; while a citrate gives the blue colour without boiling. Incidentally, Mr. Tocher submitted some interesting observations—*e.g.*, that tartar emetic is not a real tartrate but potassium tartrantimoniate. The behaviour of various acids under the alkaline-cobalt test was also studied, and it was proved that malic acid is the only one that responds similarly. It can readily be distinguished by known tests.

Citrates and Tartrates.

The visit of Mr. Henry G. Smith, Assistant Curator of the Government Museum, Sydney, gave the Conference officers the opportunity of getting him to tell the members something about the remarkable investigations which he and the Curator, Mr. R. L. Baker, have so long been engaged upon in connection with the classification and chemistry of the genus *Eucalyptus*. Mr. Baker is the botanist and Mr. Smith the chemist of the collaboration, and their united work has led to the generalisations (1) that by the venation of the leaves of eucalypts the chemical nature of their products can be indicated, and (2) the composition of the products (*e.g.*, the oils) is a guide to the identification of the species. In his paper on some recent chemical discoveries in the eucalypts, Mr. Smith first spoke about the kinos, stating that several of these are obtainable in large quantities which do not give gelatinising tinctures; that characteristic is due to the presence of one of three tannins. The kino of *E. calophylla* can be obtained by the ton, and is practically free from the objectionable constituent. *E. rostrata* contains it. In the second part of the paper Mr. Smith mentioned that the scrubby character of mallee eucalypts is due to their elaboration of calcium oxalate, which stunts the growth. The barks of some species contain 16 per cent. of the secretion, and he suggested that oxalic acid can be made commercially from such barks after the tannin has been extracted from them. Finally Mr. Smith spoke about eucalyptus oils, especially those containing citral, geraniol, and aromadendral, a cumin-like aldehyde.

Eucalyptus Phyto-chemistry.

Mr. J. E. Brunker keeps up his useful summation of the reports on medicines supplied to Irish Poor-law authorities. The figures for tinctures, liquors, and liquid extracts showed a distinct improvement in 1905 over 1904. We give these in full, as an abstract could not at all convey their value.

Irish Poor-law Medicines.

These pages are going to press while the Conference is proceeding, so that we must refer our readers to the section after p. 170 for the discussions upon Wednesday's papers.

The invitation to the Conference to meet in Manchester next year was unanimously accepted, and Mr. Thomas Tyrer, F.I.C., F.C.S., was elected President. In this appointment the Conference makes a new departure, in so far as Mr. Tyrer is the first President who has not had his preliminary training in pharmacy and is not a pharmacist. He was a pupil of Hofmann at the Royal College of Chemistry, and as a young man lectured to evening-classes in chemistry and other science subjects. The greater part of his business life was spent at Battersea as chemist to, and director of, Messrs. May & Baker, Ltd. Some years ago he acquired the chemical factory established at Stratford by Mr. Dunn and the late Dr. W. H. Squire. Thus he has spent practically all his life in pursuit of pharmaceutical chemistry.

Mr. Tyrer.

Stamped Medicines in 1905-6.

We are indebted to the Board of Inland Revenue for particulars respecting the number of patent-medicine stamps issued in England and Scotland in the year which ended on March 31, 1905, as follows:

—	England	Scotland	Total
Rate.	No.	No.	No.
1½*d.*	31,065,345	257,487	31,322,832
3*d.*	7,158,471	63,961	7,222,432
6*d.*	1,148,332	5,760	1,154,092
1*s.*	134,180	177	134,357
2*s.*	14,808	—	14,808
3*s.*	12,625	—	12,625

Compared with 1904-5, these figures show a decrease of 274,588 stamps at 1½*d.*, 449,121 at 3*d.*, 16,542 at 6*d.*, 465 at 1*s.*, and 5,179 at 2*s.* The 12,625 of 3*s.* stamps compares with 10,158 issued in 1904-5.

B.M.A. and Patent Medicines.

In the British Medical Association's annual report there is one passage which we reprint in full—viz., that dealing with patent medicines:

> At the instance of Mr. Garrett Horder, a former member of the committee, the question of the regulations affecting the sale of so-called "patent medicines" and other secret remedies and proprietary articles was under the consideration of the committee in 1905, and the consideration of the matter was again resumed during the last session. Dr. Edwardes was engaged to complete the collection of information as to the laws affecting patent medicines in other countries; and the committee also received very valuable assistance from Mr. Octavius Beale, President of the Associated Society of Manufacturers of Australia, who had received a commission from the Commonwealth of Australia to investigate the subject, and has accordingly done so not only in this country, but also in Canada, the United States, and Germany.
>
> The committee now presents to the representative meeting a special report on the subject, and makes the following recommendations:
>
> (*a*) That for medicines which are supplied otherwise than upon medical, dental, or veterinarian prescriptions, no condition of sale, short of the publication on each packet of medicine of the name and quantity of each of its constituents, should be permitted;
>
> (*b*) That the label should be made to constitute a warranty, and that false description, whether on the label or in an advertisement, should be made an offence;
>
> (*c*) That the provisions of the Food and Drugs Acts should be applied to proprietary medicines.

The Association seems to have moved on this occasion at the instance of Mr. Beale, the Australian gentleman whom we interviewed some months ago. Motives in such matters do not count, but the fact cannot be overlooked that Mr. Beale, who is not in any way connected with medicine, started on his tour with the definite idea that secret remedies and proprietary medicines are dangerous to the community and kill many people. The Association has succumbed to his eloquence, and the recommendations now made are so drastic an interference with the liberties of the subject as to be scarcely worth consideration. The Council of the Association have not realised how their recommendations can be carried out, and, if they were, what benefit would result to the public health.

Japanese Iodine.

An interesting and exhaustive account of the "Seaweed Industry of Japan" is published in the current issue of the

Imperial Institute Bulletin from information supplied by Mr. C. J. Davidson, of the British Embassy at Tokio. The manufacture of kanten, or seaweed-isinglass (agar-agar), which is a most important industry in Japan, is fully described, especially in regard to the methods of preparation employed. The information given about the extraction of iodine from seaweed is also interesting and valuable, as hitherto little has been published so far as regards Japan. It is quite anticipated that the yearly output of crude iodine in Japan will be greatly increased, as recently the Bureau of Fisheries and Marine Products has carried out experiments at many places along the coast, in order to ascertain the most economical and productive method of extracting the iodine. At present the manufacture is carried on, in a crude fashion, principally in Hokkaido and in the prefectures of Chiba, Miye, Shizuoka, and Kanagama. Many kinds of seaweed contain iodine, but the larger proportion is obtained from the brown or greenish-brown algæ which turns black on being dried, and the amount contained varies according to age and time of year. The seaweed is gathered from the rocks, principally during the summer months, then dried on the beach, after which it is either reduced to ash by burning in the open or by charring in a specially constructed furnace from which the supply of air is cut off. Charring gives the best results, as some valuable by-products are obtained in the process. To extract the iodine from the ash, the latter is dissolved in fresh water and the solution obtained is evaporated. The concentrated solution contains, in addition to iodine-compounds, potassium chloride, sodium chloride, magnesium chloride, and calcium sulphate. Sulphuric acid and manganese dioxide are then added to the solution, which is boiled, the iodine escaping from the liquid as vapour and being deposited in the condenser in the form of crystals. It appears that dishonesty is practised by the fishermen in the sale of the ash, which is often adulterated with sand or ashes, and various tests are used to determine its purity before purchase. No official statistics are obtainable regarding the annual production of crude iodine, but if the industry should be placed under Government control, as is not unlikely at some future date, records would, no doubt, be kept. During 1904 52,012 kin of potassium iodide, valued at 26,680*l.*, was exported, compared with 22,371 kin in 1903 and 3,051 kin in 1902.

Business Changes.

Properly authenticated business notices (not being advertisements) are inserted in this section free of charge if promptly communicated to the Editor.

Mr. Wills, chemist, 12 Ye Market, Selden Road, Croydon, has sold his business to Mr. A. S. Noble.

Mr. Rayner, chemist, has purchased Mr. Robinson's business at 298 High Road, Streatham, S.W.

Mr. A. H. Jesser has reopened the chemist's business in London Wall, E.C., under the style of the City Pharmacy.

Mr. Summers, chemist, late of Norton Folgate, E., has purchased Mr. W. Lockwood Nundy's business at Streatham Common, S.W.

Mr. William Bowker, chemist, Preston, has sold the recipe and sole right to manufacture "Bowker's Tic-pills" to Mr. Daniel Yates, chemist and druggist, Blackburn.

British Automatic Aerators, Limited, have taken new premises at 22 to 26 Paul Street, Finsbury, London, E.C., to which address they removed their offices and works on July 21.

Mr. John A. Dale, chemist and druggist, of Hightown and 126 West Street, Crewe, has purchased the business of Messrs. J. H. Adams & Co., Stoke-on-Trent. Mr. Dale was senior assistant with Messrs. Adams & Co. previous to commencing business in Crewe.

PHARMACEUTICAL SOCIETY OF THE TRANSVAAL.

The eighth annual meeting of this Society was held at the Grand National Hotel, Johannesburg, on June 28, with the President (Mr. Charles Keir) in the chair. There were about fifty members present, and it is gratifying to note that yearly the meetings are better attended, a keener interest being taken by Rand chemists in their welfare.

Annual Report.—The President gave a *résumé* of the work done during his year of office, particulars of which were given in detail in the committee's report and balance-sheet. From these we gather that numerically the strength of the Society has been well maintained, and the year closed with a balance of 134*l.* 9*s.* 8*d.* to the credit of the Society. The steps which were taken to prevent the alteration of the Medical, Dental, and Pharmacy Ordinance, so far as regards licensing shopkeepers to sell poisons, were detailed, and the Society placed on record the services rendered in this connection by Sir George Farrar and by the Pretoria Chemists' Association. Particulars of the deputations sent to interview the Customs authorities before the Customs Convention were referred to, and the adoption of the metric system of weights and measures was touched upon. The publication of a new edition of the "Transvaal Chemists' Retail Price-list" has been universally appreciated. The failure to induce manufacturers of proprietaries at Home to send out patent-medicines unstamped was regretted, and the social gatherings that had taken place were mentioned.

New Rules.—The proposed new rules were confirmed, Rule 8 being altered so that the annual subscription to the Society will in future be one guinea for members (instead of two guineas as heretofore) and half a guinea for associates (instead of one guinea).

New Members.—The following were elected members of the Society: Messrs. John George, Richard McGeorge, H. W. Pearson, Alexander Anderson, W. C. McRobb, Emil Hester, Harry Wheildon, W. T. Simpson, Carnegie, and Johnston.

Election of Officers.—The following officers were elected for the ensuing year: President, Mr. R. Q. Leeds; Vice-President, Mr. Alexander Rennie; Hon. Secretary and Treasurer (re-elected for the third year in succession), Mr. Alexander Macdonald; committee, Messrs. Keir, Butters, Adams, D. L. Behrmann, Rawlinson, A. S. Smith, and Purnell (Johannesburg); Adcock and W. Thomson (Krugersdorp); B. Owen Jones (Boksburg); and Raworth and Tibbett (Pretoria).

Customs Tariff.—The following is the text of a further petition sent to the Legislature regarding the new Customs tariff:

> The petition of the undersigned, the Pharmaceutical Society of the Transvaal, respectfully showeth that owing to the proposed alterations in the Customs tariff, the landed cost of drugs, chemicals, patent and proprietary medicines has gone up very considerably, the result being that the cost of living has been proportionately increased. None of the articles referred to can possibly be classed as luxuries, but rather as the sheer necessities of life. For instance, sal volatile, sweet spirit of nitre, tincture of rhubarb, friars' balsam, and many similar preparations now cost twice as much as they formerly did, the direct result of the 20*s.* per gal. duty on spirituous preparations; while Guy's tonic (as it contains over 3 per cent. of proof spirit) has been advanced in price from 4*s.* 6*d.* to 6*s.* 6*d.*, Ayers' sarsaparilla from 4*s.* 6*d.* to 6*s.*, and so on throughout a long list of articles of this class which really only contain spirit as a preservative. Pills such as rhubarb pills, antibilious pills, liver-pills, Blaud's pills, etc., now bear a duty of 2½*d.* per dozen, which we consider excessive. Meat-essences are now taxed 25 per cent. *ad valorem*, instead of 10 per cent. as formerly, the result being that such preparations as Brand's essence or Liebig's extract, which cannot be replaced by goods of local manufacture, are now beyond the reach of many individuals of the poorer class. Under these circumstances we feel that to ratify the proposed new Customs tariff would be to inflict a heavy burden upon the people of the Transvaal.
>
> Wherefore your petitioners pray that your Council will be pleased to take their case into earnest consideration and refuse to ratify the convention.

The petition was signed, on behalf of the Society, by Mr. C. Keir, the President, and Mr. A. Macdonald, the Hon. Secretary.

Summer Outings.

A Newcastle-on-Tyne Group.

THIS engraving is from a photograph of the Newcastle-on-Tyne Chemists' Association picnickers who visited Brancepeth Park, the seat of Lord Boyne, on July 18.

An Oldham Picnic.

ON Tuesday, July 17, the Oldham Pharmaceutical Association held their first picnic. The party travelled by train to Hebden Bridge and thence by brake to Hardcastle Crags. A most enjoyable time was spent in the grounds.

At Blackpool.

ON July 21 the staff of Messrs. Raybould, Whitehouse & Co., Ltd., Reform Works, Dudley, had their annual holiday at Blackpool, Fleetwood, Lytham, and St. Annes. The Blackpool party dined at the Victoria Hotel, where Mr. and Mrs. Raybould, Mr. and Mrs. Whitehouse, and Mr. Goldstraw joined them; Mr. Raybould replying to the toast of the firm.

Evans Lescher's S.A.O.

THE Bartholomew Close employés of Messrs. Evans Sons Lescher & Webb, Ltd., enjoyed a successful Saturday-afternoon outing to Chalfont St. Peters on July 21, proceeding there by train to Gerrard's Cross, and thence by brakes to the hotel at Chalfont for luncheon. Mr. D. H. Dickes, a very old servant of the firm, occupied the chair, and proposed the only toast—"The Firm." A very pleasant afternoon was spent, finishing up with an open-air concert in the evening.

From Aldersgate to Amersham.

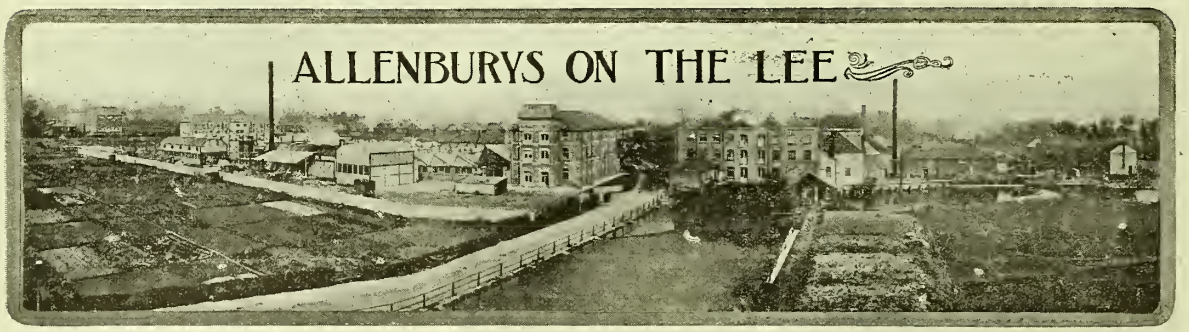
THE employés of Messrs. Willows, Francis, Butler & Thompson, Ltd., wholesale chemists, 40 Aldersgate Street, E.C., held their annual outing on Saturday, July 21. Dinner was served at the Red Lion Hotel, Amersham, Mr. H. J. Willows presiding. A cricket-match was played between teams captained by Mr. J. Thompson and Mr. W. E. W. Rumsey, the latter winning by 99 to 33 runs. In the evening a most enjoyable concert was held, Messrs. G. Hodges, G. Ingram, D. Davis, A. Cave, A. Dixon, G. Micheil, T. Hankin, A. Walker, A. Noakes, J. Jones, A. Woods, and D. Kippin taking part in it.

Festive Sparkleters.

ON July 13 a party of about 150, comprising the staff and employés of Aërators, Limited, and their guests, travelled to Yarmouth and back. The principal event of the day was a luncheon at the Royal Aquarium, presided over by Mr. A. Johnstone Campbell, managing director of the company, who, after the usual loyal toasts had been honoured, gave the toast of the day—"Prana Sparklets"—followed by that of "The Employés of the Firm." The post-prandial proceedings, which were commendably brief, were varied by songs by members of the staff and concluded with a hearty vote of thanks to the Chairman to the accompaniment of musical honours. The Aquarium band, under Mr. Bernard Hulley, played an attractive selection of music during the dinner. Magnificent weather favoured the visitors, and the numerous attractions of Yarmouth were well patronised.—On July 21 the annual sports in connection with the works were held in the company's own cricket-field at Chingford Hall Farm. A programme of some twenty to twenty-five events was successfully carried through to the accompaniment of the Edmonton Town Military Band. Towards six o'clock the handsome prizes, contributed by numerous friends of the firm, were given away by Mrs. A. Johnstone Campbell, and the proceedings wound up with an informal *al fresco* concert and dance.

The Week's Poisonings.

OF fifteen poisonings which have occurred since our last record five were caused by unscheduled articles, hydrochloric acid figuring in three of these cases. There were two misadventures. Walter Tabern (58), of Bolton, drank disinfectant contained in a mineral-water bottle in mistake for beer. A little boy named Pearce, two years old, of Belvedere, died through drinking spirits of salt, which had been "killed" with zinc, from a bottle in a neighbour's house. At the inquest Dr. Braddeley said it ought to be generally known that chloride of zinc is a very dangerous poison, and that the practice of "killing" spirits of salt with zinc does not make it innocuous, but, on the other hand, makes it into a more dangerous poison. The spirits of salt suicides were committed by Jane Clements, a Poplar stevedore's wife, and by Charles Dennis, a Plaistow painter, whose wife had been taken to an asylum. Mr. Thomas Murray, chemist's assistant, of Cumberland Road, Plaistow, who supplied the poison, said deceased stated that he wanted it for washing pans. There were two laudanum suicides—Albert Challoner (37), a shoe-finisher, of Leicester, and John Roome (45), a Nottingham needle-straightener, who, it is said, drank eightpennyworth of the opiate. Carbolic acid was taken with fatal results by Edward Gotheridge (21), of Riddings, Yorkshire, who was engaged to be married, and by Anne Baker, of Maidstone, who drank enough to kill three or four people. In both cases the acid was purchased for disinfecting purposes. Emma Rust (48), an independent lady, of Southchurch, Essex, committed suicide with carbolic acid. She suffered from insomnia. Frederick Rowledge (59), a waiter, of Chorlton-on-Medlock, and his wife Mary (53) ended their lives with potassium cyanide, which had been obtained for removing marking-ink stains from linen. They had lost money through a decline in shares in which they had invested.—A naval stoker named William Henry Roches, belonging to H.M.S. "Pembroke" committed suicide at Chatham by drinking a tumbler of water in which he had dissolved six packets of oxalic acid.—A man who died from morphia poisoning in a Lynton hotel wore boots marked Cape Town, and had a visiting-card with the name of "Charles Unsworth, Madras," on it. He addressed an apologetic letter to the Coroner, in which he said he had taken two ounces of morphia solution, and regretted the trouble he had given.—A case of strychnine poisoning by tabloids of Easton's syrup is referred to elsewhere.—A Liverpool insurance secretary committed suicide by cutting his throat and swallowing nitric acid.—Dr. M. H. Taylor, Coroner at an inquest at Kingston-on-Thames on July 24, regarding the death of a gardener by taking phosphorus-paste, observed that the serious aspect of the case was that poison could be bought and sold all over England without any restriction at all. That showed that the law relating to the sale of poisons needed amendment. The jury considered that the poison should be marked more conspicuously.



Some Notes of a Visit to Messrs. Allen & Hanburys' Factories at Ware, Hertfordshire.

WE are occasionally told by the intelligent foreigner or the go-ahead Colonial that manufacturers in these islands are behind the times. The most reverent of such critics say that our principal business-houses were established somewhere in antiquity, and they (the critics) are not prepared to sacrifice the fascination of tradition to methods that conform to their ideas of what is enterprising.

Generalisations are excellent as working hypotheses in science, but they are vain when deduced from superficial observation of industrial pursuits. It may be that the critics err because they forget that British manufacturers are not accustomed to tell the world how well they are getting along; they do not worry (or, if they do, show it not) about their competitors or neighbours, but plod along with eyes open to their mistakes, make their goods, and sell them. Some do not fall within this category; one class, who justify the critics, die, and another, who "blow" about their achievements, end like the Æsopian frog.

Readers of The Chemist and Druggist are reminded week by week that one English pharmaceutical business has been in existence since 1715—Messrs. Allen & Hanburys. In the nineteen decades they have had abundant occasion to fossilise, but to-day they rank among the most enterprising drug-houses in the world. Yet they have not lost grip of their origin, for they still retain at Plough Court, Lombard Street, the retail pharmacy in which William Allen, F.R.S., and Luke Howard, F.R.S., made their living as dispensing chemists.

To learn how the business stands to-day, perhaps the critics will take a journey with us from Liverpool Street Station to Ware. Within a few minutes after the green flag has waved we pass Bethnal Green, and there we notice a series of buildings with "Allen & Hanburys, Ltd.," upon them. This is where the firm went less than thirty years ago, when they began to develop the wholesale connection which the chemists of Great Britain had formed with them by buying a few articles in which the firm, as retailers, had made a reputation. At Bethnal Green they are at present absorbing the premises which the Sanitas Co. has recently vacated, and if the passenger has keen eyes he will observe that one of the A. & H. buildings is full of printing-machines and printing-men. Now, when a pharmaceutical business gets the length of having its own printing-establishment and of doing its own three-colour work, it is not decadent. Behind the printers' building are others, which contain all the organisation and stock of a wholesale drug-business of the modern kind. This is merely a passing glimpse, for the train runs on speedily through rose-gardens, miles of cucumber-frames, and most peaceful scenery until Ware is reached. Then we get out and walk down the banks of the River Lee, on which abuts many a summer-house with their quaint bay-windows that remind one of Ghent. Finally we see a vast array of brick and iron buildings covering part of seventeen acres and embracing both sides of the river. This is the latest location of the firm that was established in 1715 by Silvanus Bevan, the apothecary, to whom William Allen succeeded, and it is worth repeating that it was only about 1880 that their present-day successors decided to branch out as manufacturers and wholesalers to the retail drug-trade: which is the circumtance that disproves the pessimism of the critic in regard to English enterprise. Here is the proof that in the English drug-trade we have the courage and organising-power that make for great progress.

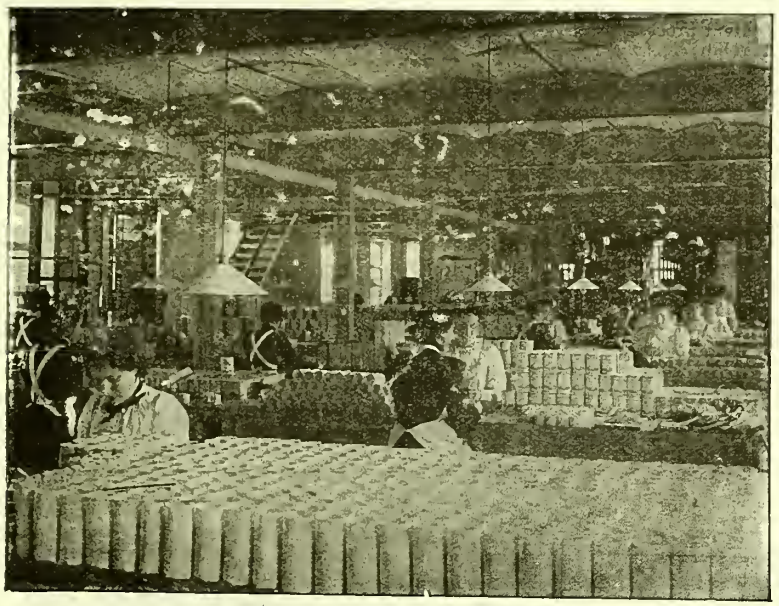
The triplet photograph which forms the title to this article gives a view of the works as approached from the entrance by the bridge at the lock-keeper's house. The building across the river is the one in which the water-turbines are placed, and here Malt Extract and kindred preparations are manufactured. The large building connected with it by an overhead bridge is chiefly devoted to packing, and behind it to the left are the streets of smaller buildings occupied with the various departments described herein. The large building in front of these is the motor-house, and to the north of it are store-rooms, sandalwood-oil distillery, and power-house.

Ten years ago Messrs. Allen & Hanburys had made a name for themselves for malt-products, and a rational offshoot of these was their series of infants' foods. The Bethnal Green establishment was unequal to the demands for these, and a new centre of production had to be sought, and was found in Ware. The staple industry of Ware is malting; but that, we learn, was not the attraction, as the firm have their own arrangements for malting. A flour-mill, using the water-power of the River Lee, was bought; but there was no attraction in that either, for the firm promptly razed the mill to the ground. In the brick building which took its place, spanning the river, there are two water-turbines of 30-horse power each; but the power required in the factory runs into four figures and is originated in two batteries of Galloway steam-boilers. Perhaps the visitor may also imagine that the Ware factory is there because of the "Allenburys" foods; again he errs, for after a walk through that vast expanse of buildings

The Allenburys Foods

were found to be only one of several departments. But we may take the foods as a starting-point, and supposing we arrive at Ware early in the morning we find the milk from forty odd Essex dairy-farms literally pouring into the factory. As soon as the analytical chemists pass it, it is bulked and driven through numerous "separators" (centrifugal machines), which remove the cream. The skim-milk is next relieved of some of its casein, to approximate it to the proteid contents of mothers' milk; then the cream and lactose are added to it to bring

its composition exactly to maternal conditions. It is next evaporated in mammoth vacuum-pans and combined with the proteid elements of wheat, with malt constituents and other ingredients fitted to the ages of infants, and the whole



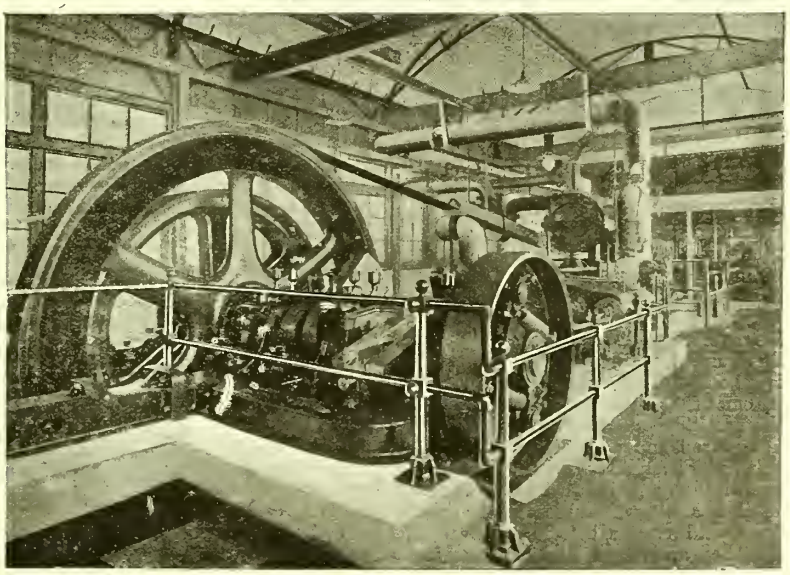
Packing "Allenburys" Food.

brought to the condition of a fine, unchangeable powder that can be carried to any part of the globe.

The conditions prevailing in those sections of the Ware establishment devoted to the production and packing of the food are ideal, but are typical of every section of it. The rooms are remarkably spacious, scrupulously clean, brilliantly lighted, and each window frames a picture of mead and river, with grand old trees athwart the ethereal blue. All the women workers are clad in linen overalls, and each group is supervised by a young lady of good birth and education. The conditions are splendid for the workers, and it is not surprising that Messrs. Allen & Hanburys have no labour difficulty to contend with. The picture which we show of the food-packing floor scarcely does the magnificent department justice, but it is the best the camera can do. The packing is an interesting process. The tins are supplied with the lids on them, and having a patent soft-metal hermetical top underneath. The tins are at this stage bottomless. Into each one a bag of parchment-paper is put, then conveyed to the weighers, who have a weighing-machine into which the food is conveyed from a hopper above, and when the proper quantity gets into the bag, the supply is automatically cut off, and stays off until the tin is removed and another put on. Then the tin-bottoms are put on with an exceedingly ingenious machine, which makes a double-seam of the edges of the cylinder and bottom, without solder, yet hermetically sealing the tin. Similar machines, with modification in the movement, are used for closing pastille-tins and other square tins. We presume we are revealing no secret when we say that what we have just described as an adjunct has grown to much bigger dimensions than the earlier manufacture of

Malt Extract and its Compounds.

The latter has grown too, as may be judged by the fact that the firm have devised their own malting-process (as the quality of malt extract depends greatly on the malt used). Malting is done in a separate establishment, and the malt brought to Ware. The malt-mashing tuns used in this department are similar to those we have seen in such breweries as Guinness's. The arrangements for filtration are ingenious considering the expedition observed, and several mammoth filter-presses extract the last drop of infusion from the malt. It next goes into vacuum-pans which would comfortably seat a party of a dozen at dinner. We may mention here that the firm have several artesian wells of pure water which is used for mashing and similar processes throughout the factory, and in the malt-extract house we first got into touch with the air-exhaust arrangements to the vacuum-pans. We may also note that the building in which the malt-extract and foods are produced is distinct from the one in which the foods are packed, an overhead bridge connecting the two, but we do not attempt to go into particulars respecting the geography of the place. Suffice it to say that, in going through it, one sees long streets dividing the ranges of buildings. It may further be noted that the law of gravitation is adopted in the processes, so that when we reached the bottom floor of the food house we came into the export-shipping department, where piles of wooden cases for many distant parts of the Empire showed that "Allenburys'" foods are as popular there as at home. We had also passed on the way the rooms in which Bynin, Bynol, and other well-known malted preparations are made and packed. The next department that we walked through was that devoted to



In the Power-house.
A 360-h.p. Engine, the size of which may be judged by the railings, which are about 4 ft. high

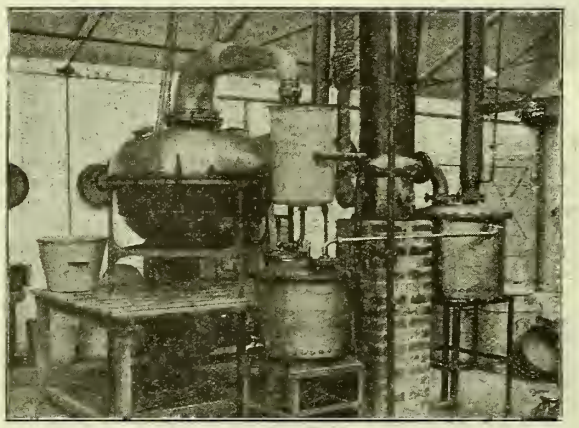
Pastille-manufacture.

Special interest attaches to this because it was Messrs. Allen & Hanburys' acquirement of the Hawker patent which crys-

tallised their decision to embark as manufacturers and wholesalers. We fix the date of this important venture by a quotation from the *C. & D.*, January 15, 1880, when a visit to the recently acquired premises at Bethnal Green, and the process of making pastilles was described. We said in 1880 :

> The manufacture of jujubes by Hawker's patent process, which was commenced by Messrs. Allen & Hanburys some five or six years ago, has grown into quite a large trade, as will be judged when we state that the room where the drying of the jujube cakes is in progress generally contains about 2 tons of these at once.

There was much extension at Bethnal Green after that was written, and now at Ware the firm devote more floor-space to jujubes and pastilles than all the accommodation they had at Bethnal Green in 1880. This being the fruit-season, many of the men in the department were on the day of our visit converting raspberries and black currants into juices for a year's supply of flavouring. So much of these fruits do the firm consume that they have laid out two fields with bushes in the way of experimental culture; but it will be years, if ever, before they can meet their own demand for fresh fruit. The most astounding feature of the Ware buildings is the array of drying-rooms for jujubes and pastilles, all of them fitted with heating-arrangements or supplied with currents of air, according to the stage of drying. We do not attempt to give any photograph of the department, as we think it would require a score or more to adequately illustrate the methods of manufacture and the processes

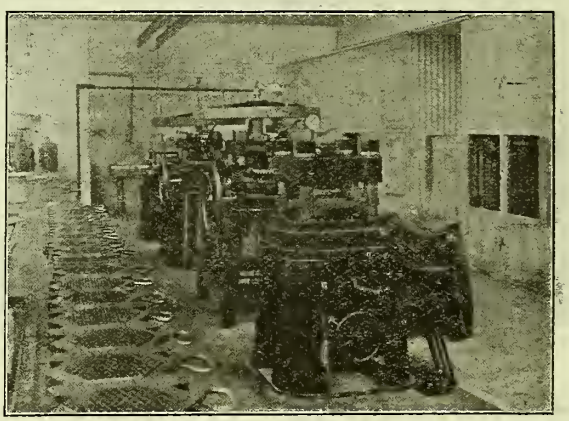


Experimental Vacuum-distilling Apparatus.

through which jujubes and pastilles go. Our readers are aware that the former are what confectioners call "gum goods," and the mass is poured into trays, thus forming sheets which take a long time to mature in the drying-rooms before they are cut into strips and diamonds or squares by a machine. Jujubes are also moulded, but this moulding-process is at the Ware works chiefly for pastilles; and most interesting it is, as from the time that the liquid mass leaves the steam-pan until the pastilles reach the customer the aim is that a human hand shall not touch them. The pastille-moulds are made in trays of starch, which are then passed under a filling-machine that automatically fills each row of moulds with the liquids, and these trays then pass through a series of drying-rooms. When matured, the pastilles are separated from the mould, washed, coated, dried, and removed from the pins mechanically. After that they are boxed, and the tins for warm countries are hermetically sealed in the manner already referred to. Closely allied with the manufacture of pastilles is

The Making of Capsules.

The French method is followed for these—*i.e.*, the gelatin coating is made into sheets and moulded into the required form by hydraulic presses, a few of which, with the moulds, are shown. Messrs. Allen & Hanburys were among the first English manufacturers to adopt this method, and through years of experience they have mastered the many technical difficulties which have to be overcome in carrying it out. Several large rooms are now devoted to this work alone, and we observed that the sheets of capsules were carried to separate rooms, where they are freed from the superfluous matrix and examined before packing. Cascara-sagrada perles, santal-oil capsules, and castor-oil capsules appeared to be exceptionally voluminous, and in connection with the santal-oil capsules we noted a circumstance which is worth mentioning. Before entering the capsule department we had walked through a small block of iron-roofed buildings, one of which was a sandalwood store and distillery. Here a 500-gal. still was at work on Mysore sandalwood, and in the pharmaceutical part of the main buildings was a large distilling-room containing smaller stills, a few of them of about 10 gals. capacity. Here was a 200-gal. still also for distilling santal oil from the finer powder of the sandalwood. The point of the observation is that the arrangements are

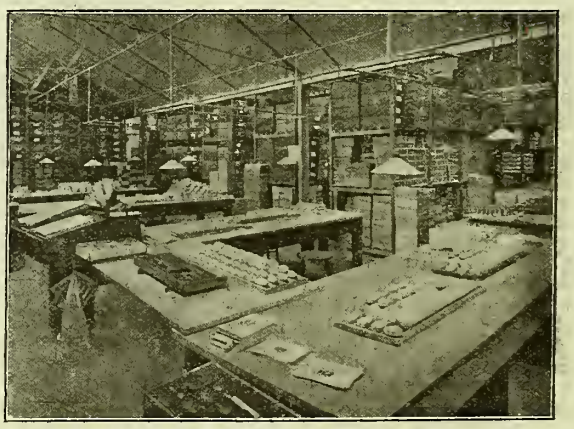


Hydraulic Presses for Making Gelatin Capsules.
The Moulds for the Sheets of Gelatin-mass are shown to the left.

such that the oil can be capsuled as rapidly as it is distilled, and the firm ensure that every drop of oil they use is produced in their own premises from Mysore wood. Another important department which we inspected was

The Toilet-soap Factory.

The firm use the best milling basis, and compound it with perfumes and antiseptics to fit it for toilet. The milling, barring, and moulding are done by machinery so neatly and quickly that one wonders if there is any art in it. After the drying-process, every cake is trimmed by girls before passing to the packing-room, of which we reproduce a photo-



Soap Wrapping and Packing Department.

graph. The outstanding feature of this department is the variety of names one sees on the cakes, special moulds

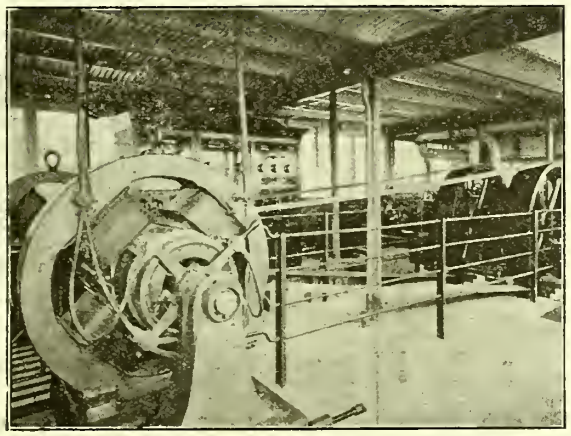
being provided for each customer, the chemist's own name and address on each cake being the motto of the soap-making department. So far we have scarcely touched

The Pharmaceutical Department

of the factory, although it fills a goodly portion of the ground-space at Ware. Perhaps the most interesting section of it is that devoted to grinding and sifting. There are isolated buildings for these processes, and the apartments are isolated from each other so as to ensure no intermingling of dust from aromatics with non-odourous drugs. There is a variety of disintegrating and grinding machinery. One piece of apparatus which struck us was a revolving cylinder with cannon-balls as the comminuting means. Aloes was the drug in the cylinder. The laboratory superintendent showed with pride some *subtilissimus* powder sifted through silk lawn—*e.g.*, hamamelin that gives no trouble when made into suppositories, and a mixture of cloves and sugar which was just as fine. The steam laboratories and percolating-rooms are on a gigantic scale, for, as was explained to us, this portion of the Ware establishment was started to relieve Bethnal Green of the larger operations in galenical pharmacy. At Bethnal Green every possible galenical compound is made, but when ton quantities have to be dealt with (*e.g.*, cascara sagrada and liquorice) the Ware laboratories take them up. We observed in one of the laboratories, high up on the wall, a still for distilled water. It produces automatically 900 gals. per day. That is one of the few details that we noted, for early in our visit it became apparent that if we were to enter into detail respecting all that was to be seen the whole of this issue would be filled with a description of the establishment. Already we have exceeded the space we proposed to devote to the matter, but a few items must be mentioned, because we feel they are

Excellent Indicators

of the extent of the premises and the magnitude of the operations done in them. First, then, in the matter of power we have mentioned the water-turbines. In the same house are two powerful beam-engines which pump water, work air-pumps and other things. There are also south and north boiler-houses. In the former are three 80-horse power Galloway boilers, and the same in the latter. Altogether there are ten steam-boilers. There are two high-pressure engines and a magnificent 360-horse power engine in the



Large Dynamo in the North Power House.

northern engine-house (of which a photograph is reproduced on p. 135) besides other power provision—*e.g.*, a separate electric-lighting plant with storage-battery. In what is called the carpenters' shop (the building on the extreme right, p. 134) there is an installation of box-making machinery, carpenters' benches, wood-printing machines, engineers' shop, a forge, and a gas-making plant. Every building in the place has been made by the firm's own workmen, and everything in the nature of repairs, whether of wood or metal, is done by them. Finally, the firm are their own carriers, having four motor-lorries which carry four tons each, which are used solely for transporting goods between Ware and Bethnal Green, besides smaller motor delivery-vans. There is a mammoth house for stabling these at Ware, with a repairing-pit, upon which a chassis was in place under repairs at the time of our visit.

Our guide on this occasion was Mr. Frederick J. Hanbury, who had scarcely emerged from the Bloomsbury portals with his Major diploma (he had been a pupil of Mr. Henry Deane, F.L.S., Clapham) when he was called upon to share in watching the new trend of the ancient business. He helped to found the Bethnal Green factory, saw the limits filled there, and now observes the Ware establishment growing under his eyes. His co-director, Mr. W. Ralph Dodd, has shared the work with him, and they are now assisted by Mr. Hanbury's two sons, Mr. Reginald Hanbury, M.R.C.S., L.R.C.P., and Mr. F. Capel Hanbury, Ph.C. The nearly octogenarian senior, Mr. Cornelius Hanbury, though now living in retirement, is still the head of the business, and all important developments have his consideration and sanction.

Were Mr. Silvanus Bevan, the City apothecary who preceded William Allen, to come to life again, he would find the history of British pharmacy in the business he established, and would doubtless be surprised; but he would agree that the emblem of the house is appropriate—The Plough that breaks new ground and makes the Earth yield her increase.

Scientific Progress.

Temperatures under this heading are on the Centigrade scale.

Omorol.—Under this name a new compound of silver and albumen has been put on the market. It is a fine yellow powder, containing 10 per cent. of silver, insoluble in water, alcohol, and other organic solvents, but soluble in salt solutions, alkalies, and blood-serum. It is recommended in cases where silver is required as a contact-remedy, in gonorrhœa, wounds, etc.

Camphor Oil.—There is at present to be found a good deal of camphor oil, the price of which is exceedingly high, which is adulterated to a considerable extent with Russian turpentine oil, carefully rectified of course. This can be detected by a careful fractional distillation of the oil, but is at once indicated by the peculiar smell, which no amount of rectification appears able to remove from the Russian oil of turpentine.

New Bismuth Salts.—Vanino and Hartl ("Arch. d. Pharm.," 1905, 216) have prepared a number of new organic double salts of bismuth. One of the most typical of these is the diphenylamine bismuth chloride. Bismuth chloride and diphenylamine are allowed to react in warm acetone solution; the crystalline compound is easily separated, and has the formula $NH(C_6H_5)2BiCl_3$. Similar compounds with nitroso-diphenylamine, aldehyde ammonia, and rheumatin were prepared.

A New Essential Oil.—Schmidt and Weilinger have examined an essential oil distilled from the leaves of a plant found in great quantity in the forests of German East Africa, and probably a species of *Piper*. It is an oil of pleasant and powerful odour, and having the following properties: It boils at 90° to 175° at 12 mm. pressure; sp. gr., 0.934; refractive index, 1.5017; optical rotation, −8° 24′; ester-value, 6 per cent. as geranyl acetate; free alcohols, 14 per cent. The probable constituents are citronellol, methoxysaprol, and the sesquiterpene limene.

Rosemary Oil has for long been regarded as being invariably dextrorotatory, and usually not to a greater extent than +8° to +9°. Parry and Bennett showed recently in these columns that this is not the case, and that pure oils are sometimes lævorotatory, and that dextrorotatory oils sometimes yield a lævorotatory fraction on distillation. A number of other authentic specimens have been examined by Parry, and found to have optical rotations of +12° to +18°, so that it is evident that the figures for this oil stood in need of great revision. It is to be noted in this respect that the new United States Pharmacopœia gives +15° as the limit value for the optical rotation, while the new Spanish Pharmacopœia states that the optical rotation must be to the left. This is not to be wondered at, as it was in regard to Spanish distillates that the lævorotation was first noticed in this country, and the remark made by Schimmel & Co. in their current "Report," to the effect that the Spanish Pharmacopœia is not correct because "pure rosemary oil is dextrorotatory: lævorotation would point to adulteration with French oil of turpentine," is therefore now clearly unwarranted.

Dutch Formulæ.

THE fourth edition of the Dutch Pharmacopœia contains a goodly number of formulæ for chemical and galenical preparations which are suggestive. We have gone over it and selected those which we think may interest English pharmacists. The quantities in the formu'æ are in all cases *parts by weight*, whether liquids or solids.

Bacilla Gelatinosa.

Gelatin Suppositories.

Gelatin	2
Water	4
Glycerin	5

Benzoas Natricus cum Caffeino.

Caffeine and Sodium Benzoate.

Sodium benzoate	1
Caffeine	1
Water	3

Dissolve, filter, and evaporate the filtrate to two parts.

Capsulae Balsami Copaivae.

Copaiba Capsules.

Each capsule, made from the subjoined composition, to be filled with half a gram of copaiba:

Gelatin	30
Water	60

Dissolve in a water-bath and add—

Glycerin	10

Strain through muslin.

Capsulae Olei Ricini.

Castor-oil Capsules.

Each capsule contains 3 grams of oil. The capsule-mass is made from the following:

Gelatin	23
Water	32
Glycerin	45

Charta Antiasthmatica.

Asthma-paper.

Belladonna, digitalis, sage, and stramonium leaves of each	2
Boiling water	85

Infuse, strain, and in the infusion dissolve

Potassium nitrate	15

Saturate blotting-paper in the liquor, dry, and saturate in a mixture of

Tincture of benzoin	1
Spirit	4

Dry and cut into pieces 10 cm. by 15 cm.

Tincture of benzoin is 1 in 5 parts of spirit.

Citras Magnesicus Effervescens.

Effervescing Citrate of Magnesia.

Powdered citric acid	30
Water	4
Carbonate of magnesia	10

Mix in the above order, then set aside in a dry place (preferably over quicklime) to dry. Then add the following, each previously dried at 30° C.:

Powdered sodium carbonate	34
Powdered citric acid	16
Powdered sugar	10

Make into a mass with alcohol, dry, and reduce to coarse powder.

Liquor Krescli Saponatus.

Lysolum.

Soft soap	50
Crude cresol	50

Heat the soap on a water-bath, and mix the cresol with it, then add gradually with constant agitation water | 100

Pasta Zinci Salicylata.

Zinc Paste.

Salicylic acid	2
Zinc oxide	25
Wheat starch	25
Yellow vaseline	45

Mix thoroughly.

Gelatina Oxydi Zincici.

Gelatin	20
Water	40
Glycerin	10

Make a solution and mix therewith the following previously mixed together:

Zino oxide	15
Glycerin	15

Add water to make the weight 100.

Oleum Iecoris Aselli cum Benzoate Ferrico.

Ferrated Cod-liver Oil.

Sodium benzoate	3
Water	15

Dissolve and add—

Solution of ferric chloride (3-1= s.g. 14.70—1.482)	2.4
Water	25

Collect the precipitate and wash till free from chloride; dry it with filtering-paper, mix with 15 of dried sodium sulphate, dry, and powder. Add this to

Cod-liver oil	250

Heat to 30°—32° C. to dissolve the ferric benzoate, and when cold filter.

Pastillae Chloreti Hydrargyrici.

Corrosive-sublimate Pastilles.

Cyanol blue	2 grams.
Saturated solution of sodium chloride	95 ,,
Mercuric chloride	1,000 ,,
Sodium chlorido	400 ,,

Mix and make into 1,000 pastilles.

Pilulae Blaudi.

Blaud's Pills.

Potassium carbonate	65 grams.
Powdered sugar	10 ,,
Powdered tragacanth	4 ,,
Calcined magnesia	10 ,,
Glycerin	40 ,,

Mix and add—

Dried ferrous sulphate	80 ,,

Mass and divide into 1,000 pills.

Pilulae Laxantes.

Laxative Pills.

Extract of aloes	20 grams.
Medicinal soap	60 ,,
Powdered rhubarb	60 ,,

Mass with a mixture of glycerin (1) and water (3) and divide into 1,000 pills.

Sapo Aromaticus.

Balsamic Opodeldoc.

Soft soap	20
Camphor	2
Dilute spirit	74

Dissolve and add—

Oil of rosemary	1
Solution of ammonia	3

Filter.

Soft Soap is made with sesame oil (65), potash solution s.g. 1.344 (35), and water 100.

Sapo Superadipatus.

Superfatted Soap.

Wool-fat	4
Soft soap	20
Medicinal soap	76

Mix.

Medicinal Soap is hard olive-oil soap.

Sapo Superadipatus cum Pice Liquida.

Wool-fat	4
Tar	5
Soft soap	15
Medicinal soap	76

Mix.

Sapo Superadipatus cum Sulfure Praecipitato.

Wool-fat	4
Precipitated sulphur	10
Soft soap	20
Medicinal soap	66

Mix.

Sirupus Aurantiorum.

Orange Syrup.

Orange-peel in coarse powder	10
Water	25

Macerate for two hours, then transfer to a percolator and percolate with water 38 parts, to which add—

Sugar	62
Syrupi	100

Spiritus Citri.

Lemon Spirit.

Fresh lemon-peel, cut	400
Spirit	650
Water	1100

Macerate twenty-four hours and distil 1,000 parts.

Sirupus Codeini.

Codeine hydrochloride	1
Water (60°-70° C.)	8

Dissolve and add—

Simple syrup	391

Sirupus Liquiritiae.

Liquorice Syrup.

Liquorice-root cut small	25
Water	120

Macerate twenty-four hours, strain, and press. Heat in a water-bath until reduced to 50, filter, and in the warm filtrate dissolve—

Sugar	80
Purified honey	80

Spiritus Saponatus.

Potassium hydroxide solution (s.g. 1.456—*i.e.* KOH 45 in 75 of solution)	75
Sesame oil	195
Spirit	200

Mix in a closed vessel, and agitate occasionally until the oil is saponified, then add—

Spirit	150
Water	378
Lavender oil	2

This is the Dutch formula for *Hebra's Soap Spirit.*

Trochisci Santonini.

Worm-lozenges.

Santonin, finely powdered	2.5 grams.
Powdered sugar	47.5 ,,
Cacao-paste	50 ,,

Mix, mass, and divide into 100 lozenges.

Cacao-paste is the ordinary pure commercial unsweetened paste cocoa.

Unguentum Leniens.

Cold-cream.

Yellow wax	5
Spermaceti	10
Wool-fat	10
Sesame oil	50

Melt and add with constant stirring—

Rose-water	25

Aqua Rosarum is made by shaking together 1 part of otto of rose with 1,000 parts of water and filtering.

Birmingham,

Pharmaceutically Considered.

THE conditions of the practice of pharmacy in Birmingham are not ideal; indeed, few towns of the size of that city have so varied a drug and pharmaceutical service. In the mere matter of trading the drysalter is easily first in turnover, and a most profitable business he does, for Birmingham industries have a big call for acids and other chemicals, lacquers, and colours. Why chemists and druggists do not cultivate this branch more is one of the unsolved trade problems, for there is more hope of salvation in that direction than in what is called "pure pharmacy." Prescribers outnumber chemists by about three to one, and prescribing and dispensing is the rule followed by Birmingham practitioners, so that there is comparatively little dispensing for the chemists to do. Again

Arms of Birmingham University.

Hospitals and Dispensaries

are so numerous that even medical men make war against the provision of co-operative physic for the people, and, led by Dr. Saundby, succeeded a year or two ago in stopping a medical institute which canvassed for adherents. The oldest of the hospitals in Birmingham is the General, which was founded in 1765; but, for one reason or another, the building of the hospital in Summer Lane was not completed until 1779, and with additions it did good work for over a century. At a meeting held on January 21, 1891, and presided over by Alderman Clayton, it was decided to build a new hospital, which was done on a site of about 3¾ acres, having frontages to Steelhouse Lane, Loveday Street, Weaman Row, St. Mary's Square, and Whittall Street. This magnificent pile was opened by Princess Christian on July 7, 1897. At the present time the hospital has an annual income of over 26,000*l.*, and treats over 5,000 in-patients besides 62,000 out-patients. The surgery and dispensary account amounts to 4,000*l.* a year, and contains such items as drugs, chemicals, and disinfectants, 1,201*l.*; dressings, bandages, etc., 1,656*l.*; instruments and appliances for hospital, 491*l.*; ice and mineral waters, 53*l.*; wines and spirits, 87*l.*; surgical appliances, etc., for patients, 196*l.*; and methylated spirit, 104*l.* Mr. T. Whitmore Peck, the dispenser, has held the position for eight years, and before that was dispenser at the Birmingham General Dispensary and got experience with several well-known pharmacists—*e.g.*, Mr. J. C. C. Payne (Belfast), Mr. E. Yewdall (Leeds), and Mr. J. Green (Christchurch). The Jaffray Hospital is a suburban branch of this institution.

Mr. Whitmore Peck.

The Queen's Hospital, Bath Row, was founded in 1840, and enlarged from time to time. Here about 2,200 in-patients and 31,000 out-patients are treated annually. The weekly attendance is 2,500 persons, and as the majority of these receive medicine, etc., the dispensers are rarely idle. There are thirteen visiting physicians and surgeons, and seven resident, fully qualified medical men. This ensures great variety in the work done in the dispensary, which is in charge of Mr. H. Campbell, pharmaceutical chemist, assisted by Mr. Oscar Edwards. The hospital is to be considerably enlarged, at a cost of 30,000*l.*, and a new dispensary is to be erected on the new site. In connection with the dispensary are a well-equipped pathological laboratory, a photographic department, and a department wherein the chemical examination of stomach-contents, blood, sputa, etc., is carried on; and the preparation of the stains and

Children's Hospital.

volumetric and other solutions required forms no small part of the work done in the dispensary.

The Children's Hospital, Broad Street, was opened in 1862, and treats about 16,000 patients yearly. Here Mr. F. T. Collier is the dispenser. The convalescent home at Moseley Hall, Moseley, was the gift of the late Mr. Richard Cadbury, J.P.

Mr. F. T. Collier.

The Dental Hospital, Great Charles Street, is a new and imposing building recently opened, to which Mr. Barrow Cadbury and other members of the family contributed largely. At the Ear and Throat Hospital, Edmund Street, which has the King as patron, Miss M. Mannox is dispenser.

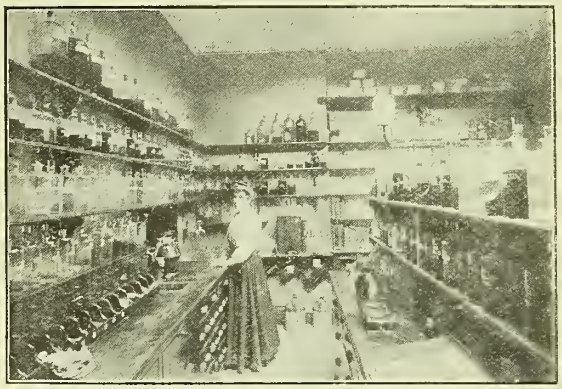
In the same street is the Eye Hospital, which extends its influence throughout the Midlands. Here the dispenser is Mr. E. Meggeson, assisted by Mr. H. B. Johnson.

At the Homœopathic Hospital, Easy Row, Miss Alice D. Braham is dispenser. The number of out-patients treated averages 19,126 annually. Patients attend either as paying or free—the fees being 1*s.* for one week's or 2*s.* 6*d.* for four weeks' treatment. The in-patient department has about thirty-five available beds and there is an average of 293 in-patients a year. Homœopathic dispensing differs somewhat from the ordinary work, inasmuch as two drugs are not dispensed in one bottle and many medicines are administered in pill or tablet form. At the Skin and Urinary Hospital, John Bright Street, Miss F. Brittain, assisted by several ladies, has control of a newly formed and well-equipped laboratory and dispensary. At the Women's Hospital, Upper Priory and Spark Hill, the dispenser is Miss M. Thompson, who also has several assistants of her own sex.

Miss C. S. Perkins, B.Sc.

The General Dispensary, established in 1719, caters for over 50,000 patients. It has many branches, all presided over by qualified dispensers, among whom may be mentioned Miss Catherine S. Perkins, Ph.C., B.Sc., Highgate Dispensary; Mr. Harold Wilson, Ladywood Dispensary; and Miss T. P. Sage in Union

Street. For many years after its foundation there was only one building, that in Union Street; now there are six, and ground has been purchased for a seventh. Highgate was the first branch opened, in 1871, and there Miss Perkins is the dispenser, assisted by two pupils. We illustrate the interior of her dispensary.



Interior in the General Dispensary.

There is only an out-patient department, but there are two resident surgeons at Highgate and patients who are too ill to attend are visited at their homes.

In addition to the foregoing are many provident dispensaries in Birmingham, among which are worthy of note the following: Sherbourne Road, Balsall Heath, the dispenser of which is Miss Harriett Willcox; the Hockley dispensary, Miss Millar; and Sutton Coldfield, in charge of Miss Fannie Type. It will be observed that Birmingham appears to have a liking for the lady dispenser. This had its origin in the favour with which the late Sir Lawson Tait, the eminent gynæcologist, looked upon this occupation for ladies, and scattered throughout Birmingham are many of them acting as assistants in institutions and for the numerous dispensing medical men throughout the district. So numerous are institution dispensers in Birmingham that three years ago Mr. Whitmore Peck succeeded in forming them into an association for their mutual interests. It includes lady members, and meetings are held occasionally.

Retail Pharmacies.

During the last quarter of a century a tremendous change has come over the conditions of trading in the city. Many old establishments have disappeared under the pressure of modern methods, and those that remain have adapted themselves to the altered conditions; while with the growth of the suburbs new shops have grown up like mushrooms, and have drawn away a large portion of the business that used to go to chemists in the centre of the city. The name of Ipkins, a druggist who had a shop at the corner of the Minories, is now but a memory; so, too, is that of Atkins, whose premises used to be in Bull Street, on the north side of Corporation Street, and were taken in by the extension of Lewis's. The businesses in New Street and Broad Street, at one time carried on by Mr. Wagstaff, one of the founders of the Pharmaceutical Society, have long since ceased to be. Mr. Joseph Lucas, who had a business in Union Street, is living in retirement, and what was his shop is now part of the premises of Chamberlain, King & Jones. In more recent times such old-established businesses as those of A. Bird, at the corner of Worcester Street and New Street, and Arblaster & Churchill, in Corporation Street, have closed their doors. Of those which are left the distinction of being the oldest established belongs to that of Bellamy & Wakefield, in Easy Row. To this quite an interesting history attaches. In 1821 it passed into the hands of Mr. Howel James, but all efforts to trace the former proprietor or proprietors have proved unavailing. Some of the patent medicines in use in those days, however, are still sold by the firm, so that there are residents in Edgbaston whose ancestors of a century ago bought from the same establishment the same drugs that they themselves use to-day. Mr. James's successor was Mr. Harrison, who after a time was joined in partnership by a young man, named Scott, who had been a dispenser at Chatham Hospital. Scott is still affectionately recalled as a little, stout, clean-shaven man, who always wore a white tie. He was a fine and keen cricketer—so keen, indeed, that when Mr. Harrison died and Mr. Scott sought to marry his widow, he was kindly but firmly told that he had to choose between her and cricket. Mrs. Harrison changed her name, and Mr. Scott forsook the pitch. After him in business came Mr. John Bellamy, who in later years took into partnership Mr. John Wakefield, and the latter is now the sole proprietor of the business, although the name of Bellamy & Wakefield is retained. The premises are most handsome and well equipped. A branch shop was opened in Hagley Road in 1898.

Another of Birmingham's ancient pharmacies is that of Hedges & Son, in Dale End. A Mr. Yeomans established it about eighty years ago, and carried it on until 1852, when he was succeeded by the present proprietor, Mr. Hedges, a hale and hearty old man, who still takes more than a passing interest in the concern. The premises occupied then were No. 7 Dale End, which had formerly been in occupation by Messrs. Taylor & Lloyd, of the old bank, from which Lloyds Bank, Ltd., has sprung. A few years later Mr. Hedges transferred the business to 13 Dale End, and in 1879 he found it necessary to purchase the adjoining three shops, with warehouses at the rear, all of them being eventually required for the business. In 1896 a branch was opened in the North-Western Arcade, and was successful from the first, and since Mr. W. Shakespear became manager in 1895 prosperous branches have been opened in the principal suburbs, the whole of them being fed from Dale End.

By comparison with these, most other pharmacies in the city, conducted by individual chemists, are quite modern, as may be judged by the pictures of some of them which we give. In order to take a run through them a convenient starting-point is The City Pharmacy, situated at 18 New Street, which was established by the present proprietor, Mr. T. L. Reeve, in 1875. Mr. Reeve, who is a native of Birmingham, and gained his experience at Hastings, and subsequently with Mr. Burrows, the well-known Malvern chemist, does a large business in specialities, and has developed a considerable dispensing business. Continuing along New Street, we pass on the right one of the shops of Boots, Ltd., and at the corner of Paradise Street and Easy Row that of Bellamy & Wakefield. We now enter Broad Street, at the Five Ways end of which is the finely equipped and high-class pharmacy of Mr. T. Chase. The premises consist of a handsome double-fronted shop, admirably fitted and arranged, and is probably the largest of its kind in the city. Mr. Chase has been in it since 1881, when he purchased the business from Palmer & Powell. Previous to this, Mr. Chase had conducted a business of a similar description a few doors away. The chief part of the business is dispensing.

An easy walk along Hagley Road, one of Birmingham's fashionable thoroughfares, brings us to the pharmacy of Mr. G. E. Perry, who conducts a dispensing and first-class retail business, doing a good deal of analytical work for medical men. Mr. Perry opened the shop in 1875. In the same district is the old-established pharmacy of Messrs. MacIsaacs & Co. Returning towards the city we go along Colmore Row, past the Council House, and reach The Grand Pharmacy at No. 35, opened by the present proprietor, Mr. F. A. Smith, in 1900. It was in this shop that a bag containing 10,000*l.* worth of diamonds was exchanged for one with nothing in it by a passing thief. It was also here that the first American soda-fountain in the Midlands was installed shortly after the shop was opened, and it helped to build up a good business, dispensing not being the least important part of it.

The well-known business of Snape & Son, at 13 Great Hampton Street, was established in 1834 by Mr. Edward Snape, who in 1880 was succeeded by his son, Mr. John George Snape, and eight years later that gentleman sold the business to Mr. Jeffrey Poole, who in 1899 also purchased the business of Mr. C. F. Jarvis, in Handsworth, which is now conducted as a branch of the Great Hampton Street establishment. On the Sparkbrook side of the town we

1. Mr. Radford's, 14 Union Street.
2. The Old Banks' Pharmacy.
3. Mr. Perry's, 171 Hagley Road.
4. Mr. Chase's, 151 Broad Street.
5. Mr. Reeve's, 18 New Street.
6. Messrs. Bellamy & Wakefield's, Easy Row.
7. Mr. Thompson's, 159 Stratford Road.
8. Messrs. Hedges & Son's, Dale End.
9. Mr. Smith's, 35 Colmore Row.

come to the business of Mr. Charles Thompson, in Stratford Road, which has been established since 1875. He has built up a large dispensing connection in addition to the ordinary retail business. Some years ago Mr. Thompson opened a second shop further up Stratford Road, and also acquired a business in King's Heath. He formerly had a business in Ladypool Lane which was purchased by Mr. Prowse, at one time a well-known man. It is now carried on by Mr. Hill.

There are two homœopathic pharmacies in the centre of the city—Corfield & Corfield and Mr. J. Radford. The former, on Bennett's Hill, is the older of the two. It was founded by the late Mr. Chas. Corfield, who, in 1840, at the age of nineteen, came from his native Cornwall to Birmingham, on the advice of his friend the late Dr. J. B. Melson. He spent a few years with Messrs. Southalls, and in 1844 commenced business on his own account in New Street. He remained there for two years, then went to the present premises. In 1859 Mr. Corfield was greatly, indeed mainly, instrumental in establishing the Birmingham Homœopathic Dispensary, which afterwards became the Homœopathic Hospital. The present proprietor of the business, Mr. Edward Corfield, is a nephew of Mr. Chas. Corfield. A portrait of the latter has inadvertently been grouped on p. 145 instead of that of Mr. Edward Corfield given above. Mr. Charles Corfield died in 1890.

Mr. Edward Corfield.

Mr. James A. Radford's pharmacy, in Union Street, is more modern, having been in existence only since 1885. Mention must also be made of the fine retail pharmacy of Messrs. Southall Bros. & Barclay, Ltd., which retains its ancient characteristics, so far as windows are concerned, but is perfectly modern inside, the dispensing arrangements and the provisions for supplying surgical appliances being excellent. Mr. Wiltred F. Southall is the manager of this pharmacy.

The foregoing notes refer chiefly to the shops of which our local representative succeeded in getting photographs. There are many more which are worthy of illustration, and other chemists who could supply interesting experiences. Mr. F. Barlow, of Balsall Heath and Mary Street, could tell us all about big guns and give the points of the best dogs, both of which he favours when he is not behind the crimson lights. Mr. Lowther has a prettily situated pharmacy in Moseley Village, and in Moseley Road is the pharmacy of Mr. Blackbourne, who figures among our Midland men of mark. The business in Bristol Row conducted by Mr. Chapman is an old one formerly carried on by Mr. F. M. Morris. Mr. Howes left Southalls' to take over the pharmacy of Mr. Tomlinson when he went in for dentistry. Mr. F. Adams has several shops, one of the most interesting is the business in Broad Street, carried on for many years by Mr. Wilkes. It is noteworthy that several Birmingham chemists carry on in association with pharmacy such duties as those of postmaster, registrar of deaths, rate-collector, and even banking.

Boots, Ltd., have fifteen or sixteen shops within a four-mile radius of the centre of the town. A year or two ago they added greatly to their influence in the city by acquiring the old-established business of Morris Banks & Co., in High Street. This has now been converted into a central office, and is a convenient feeder for the other shops in and around the city. The Morris Banks business dates back to 1826, and in 1839, during the Chartist riots, the shop was set on fire, and was only saved from destruction through the action of Mr. Alfred Walker, the public prosecutor. Mr. W. Jones, who is now in Tewkesbury, purchased the business, which afterwards passed into the hands of the Midland Apothecaries' Co., of which Mr. Prosser and Mr. W. B. Featherstone were partners.

The other company chemists in the city are Needhams, Ltd. They have eight shops, most of which formerly belonged to Magor, Ltd. The oldest established and principal shop is that at 126 Corporation Street, opposite the Old Square, and it is a central establishment for the others.

The Local Chemists' Association.

A body of men who have the unique experience of thrice giving shelter to the British Pharmaceutical Conference ought to be worth study. Let us look at it as a body; then individually. Most things pharmaceutical in Great Britain date back to 1841. So is it with the Birmingham Chemists' Association; it was born then, and died soon afterwards, being succeeded in 1852 by one of Jacob Bell's many creations. Again early death befell Association the second. The third came in 1869, when a meeting was held in the Priory School, Old Square, under the presidency of Mr. W. Southall. One of the first duties of the council was to prepare a price-list for the use of members, which we append as a relic of the good old times :

Pills.

1	... ...	4*d.* per doz.
2	... ...	4*d.* ,,
3	... ...	6*d.* ,,
6	... ...	6*d.* ,,
12	... ...	8*d.* ,,
18	... ...	10*d.* ,,
Above 18	...	6*d.* ,,

Silvered.

6	... ...	9*d.* per doz.
12	... ...	1/0 ,,
24	... ...	1/6 ,,

Tinctures and Drops.

1 oz. and under ...	... 10*d.*
1½ oz.... ...	... ... 1/2
2 oz.... ...	... ... 1/6
3 oz.... ...	... .. 2/0
4 oz.... ...	... ... 2/6

Mixtures.

1 oz. ...	... 8*d.*
1½ oz. ...	... 10*d.* to 1/0
2 oz. ...	... 1/0

Doses.

	1 oz.	1½ oz.
3 oz. ...	1/0 ...	1/4
4 oz. ...	1/0 ...	1/4
6 oz. ...	1/4 ...	1/8
8 oz. ...	1/6 ...	1/9 to 2/0
10 oz. ...	1/10 ...	—
12 oz. ...	2/2 ...	—
16 oz. ...	2/9 ...	—
20 oz. ...	3/6 ...	—

With acid mixture 50 per cent. more.

Draughts.

1	6*d.* to 8*d.*
2	1/0 to 1/4
3	1/6 to 2/0
4	2/0 to 2/8
6	3/0 to 4/0

Powders.

1	3*d.*
2	4*d.*
3	6*d.*
4	8*d.*
6	9*d.*
8	1/0
12	1/6

Powders for Effervescing Mixtures 1/0 per doz.

Powders for Lotions, Gargles.

1	6*d.*
2	9*d.*
3	1/0
6	1/9

Lotions, Gargles and Injections.

Not exceeding 8 oz. 2*d.* less than mixtures; when exceeding 8 oz. 4*d.* less.

Ophthalmic Ointment.

2 drachm	9*d.*
½ oz.	1/0
1 oz.	1/3

Ordinary Ointments and Electuaries.

½ oz. and under ...	6*d.*
1 oz	8*d.*
1½ oz.	1/0
2 oz.	1/3
Above 2 oz. ...	6*d.* per oz.

Liniments.

Ordinary, not less than 6*d.* per oz.

Lin. aconiti, lin. belladonnæ, lin. chloroformi, lin. crotonis, 1/0 per oz.

Lin. potassi iodidi c. sapone, 8*d* per oz.

Lin. sinapis co. 1/3 per oz.

The above prices include bottles, covered pots, etc., except stoppered bottles.

This list was adopted in October 1869, and at the same meeting it was decided to alter the name of the Association to the Midland Counties Chemists' Association. In the second year of its existence the Association launched out on a fairly ambitious scheme of lectures on pharmacy to the assistants and apprentices of members during the summer months. Dr. Hill conducted the first course, which was attended by about thirty students, but a second course proved a failure, and the result was a considerable loss to the Association. The Association continued to do useful, if uneventful, work. In 1875 the council secured the services of Mr. Stokes Dewson for a course of lectures. The present Midland Pharmaceutical Association is the 1869 Association renamed and revivified. The change took place in 1893, when the scope of the work was considerably enlarged. In the intervening years the work of the Association has been carried on without a break, as the names of the presidents since its inception may show :

1869. W. Southall	1888. Geo. E. Perry
1870. C. J. Arblaster	1889. W. J. Wyley
1871. George Dymond	1890. A. Southall
1872. George Dymond	1891. A. Southall
1873. A. J. Grieves	1892. C. Thompson
1874. Thos. Barclay	1893. C. Thompson
1875. Thos. Barclay	1894. R. D. Gibbs
1876. W. Jones	1895. R. D. Gibbs
1877. W. Jones	1896. F. J. Gibson
1878. W. Southall	1897. F. J. Gibson
1879. J. Green	1898. J. Poole
1880. W. Holdsworth	1899. J. Poole
1881. W. Holdsworth	1900. J. Barclay
1882. J. Lucas	1901. G. E. Perry
1883. J. Lucas	1902. A. W. Gerrard
1884. T. Barclay	1903. A. W. Gerrard
1885. T. Barclay	1904. A. W. Gerrard
1886. T. Barclay	1905. A. W. Gerrard
1887. Geo. E. Perry	

Another organisation in Birmingham was the Chemists' Assistants' Association. As far back as 1868 or 1869 a circular was issued about the formation of an association of assistants. It came, struggled, and died. About ten years ago another was started, and was for a time very successful—indeed, lived for ten years—but young men have a habit of growing older and ceasing to be assistants, and at present there is no junior association in Birmingham.

The Local Committee.

The arrangements for the reception and entertainment of the Conference members were made by an exceptionally large committee composed of the leading chemists of Birmingham, Coventry, Shrewsbury, Wolverhampton, Worcester, and doubtless other towns. Mr. T. Barclay (of whom an appreciation is given elsewhere) acted as Chairman, and Mr. Charles Thompson as Secretary (we gave his portrait last week). Mr. A. W. Southall and Mr. James A. Radford were Assistant Secretaries, and Mr. Jeffrey Poole Treasurer. We give portraits of these gentlemen and of others well known in the drug-trade of the Midlands, and in the following notes tell as briefly as we can who these gentlemen are—pharmaceutically :

F. H. Alcock, F.I.C., F.C.S., pharmaceutical chemist, served a 4½ years' apprenticeship with Mr. Blackshaw, pharmaceutical chemist, Burslem, and while with Messrs. Adams & Co., Stoke, took the Bell scholarship 1878-9, and after his "Square" distinctions the Pereira medal. He then went to Messrs. Giles, Schacht & Co., Clifton; thence to Bloomsbury Square as assistant in Dr. Attfield's laboratory; afterwards to Messrs. Luff & Woodland's School of Pharmacy; and then to Messrs. Southall Bros. & Barclay's for three years. During the past nineteen years he has been in practice as an analyst and science teacher at Broad Street Corner, Birmingham.

A. E. Coverdale, Ph.C., is proprietor of the business of George & Welch, Worcester, which was founded by Messrs. Lea & Perrins of sauce fame. He is Secretary to the Worcester and District Chemists' Association.

W. Gowen Cross, J.P., Ph.C., served his apprenticeship at Hampstead, and afterwards occupied situations in the West-end of London, notably with Savory & Moore and J. G. Gould, Oxford Street. In 1875 he joined his father in business at Shrewsbury, and in 1881 was assumed as a partner. Mr. Cross was one of the original executive committee of the Chemists' and Druggists' Trade Association, and was its President when it expired in 1887. He was elected to the Pharmaceutical Council soon after, and on it has served a period as Vice-President. Alderman Cross's son is a pharmaceutical chemist, and his elder daughter has also qualified at Bloomsbury Square.

J. Cuxson, of Cuxson, Gerrard & Co., Ltd., is not a chemist, but in 1878 he joined Mr. R. D. Gibbs in the manufacture of surgical dressings, inventing a machine for the manufacture of carbolised gauze.

F. Fletcher is one of the best-known men in the Midlands, for he has for many years been associated with Messrs. Wyleys, Ltd., of which he is now a director.

Alfred W. Gerrard, Ph.C., F.C.S., when seventeen years of age was sent to the Great Northern Hospital as an apprentice, and at the end of the three years was appointed assistant dispenser at Guy's Hospital. The head of the department was an apothecary, named Stocker, who was succeeded by the late Mr. H. Collier. Mr. Gerrard passed the Minor and the Major examinations before the 1868 Act came into force, and, after ten years at Guy's, succeeded the late Mr. William Martindale as pharmacist and teacher of pharmacy at the University College Hospital and Medical School. Few living British pharmacists have done more original work than Mr. Gerrard, and in these later days he has turned his attention to commerce with signal success.

F. J. Gibson, pharmaceutical chemist, Wolverhampton, in 1875 commenced his apprenticeship with Mr. David Prosser, chemist, Sheerness, and in 1881 went to Wilts. After passing the Minor he went as assistant to the late Mr. W. H. Brevitt, Wolverhampton, and in May 1886 he purchased the business. In 1898 he took the initiative in the formation of a Chemists' Association in Wolverhampton, and was elected the first President, an office which he again filled in 1905-6.

Mr. F. J. Gibson.

H. W. Jones, F.C.S., Ph.C., who controls the manufacturing department of Wyleys, Ltd., of which company he is a director, is a prolific and able writer on trade subjects. For many years he has been a regular contributor of papers to the Conference and to the Midland Pharmaceutical Association, of which he is a Vice-President.

E. W. Mann, pharmaceutical chemist, is at the head of the experimental laboratories of Messrs. Southall Bros. & Barclay, Ltd.

G. E. Perry, Ph.C., had his first experience of pharmacy with Mr. Watkins, Dudley, and after his apprenticeship was assistant to Mr. Mathew Dennison, and subsequently migrated to London, where he was an assistant to Mr. Henry Deane, of Clapham. In 1875 Mr. Perry went to Birmingham, and his name has been identified with all chemists' movements there ever since.

Jeffrey Poole was apprenticed in Birmingham in 1877, and subsequently spent two years in the pharmacy of Corbyn, Stacey & Co., High Holborn, and a similar period with Mr. E. C. Perks, Sloane Square. He acquired his present business in 1888.

James A. Radford served his apprenticeship with the late Mr. Charles Corfield, in Bennett's Hill, and, after qualifying, he was appointed to manage the business. This he did for a period of seven years, when, in 1885, he started business on his own account in Union Street.

Alfred Southall, Ph.C., F.C.S., is one of the fathers of English pharmacy. He is one of the few survivors of the 1865 Conference. In 1832 his father, William Southall, joined his brother Thomas in the Bull Street business, and at the age of seventeen Mr. Southall was apprenticed to the firm, and for more than forty years was closely and actively occupied with the business from which he only recently retired. Since 1886 he has been a member of the Pharmaceutical Council. Mr. Southall is a member of the Society of Friends, to which his family have belonged for more than 200 years, and he has ever taken an active part in religious and social work.

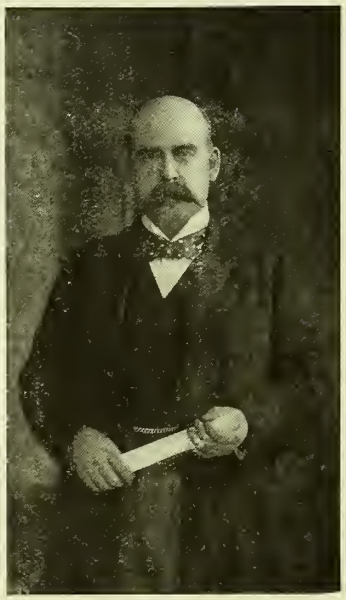
Alfred William Southall is a son of Mr. Alfred Southall, and was a pupil of the late Mr. Barnard S. Proctor, Newcastle. From there he went to Bloomsbury Square and passed his Minor and Major examinations in 1892. Immediately after he entered the firm of Messrs. Southall Bros. & Barclay, spending a short time in the house, and for five or six years acted as traveller. When the business was floated into a company in 1898 he joined the board of directors, and since then he has taken an active and responsible part in the management of this large and many-sided concern. In the Midland Pharmaceutical Association, of which he is a Vice-President and a prospective President, he takes a keen interest.

F. H. Alcock

G. E. Perry

E. W. Mann

J. Poole



Col. Wyley

F. H. Prosser

A. E. Coverdale

F. A. Willcock

J. A. Radford

C. W. Turner

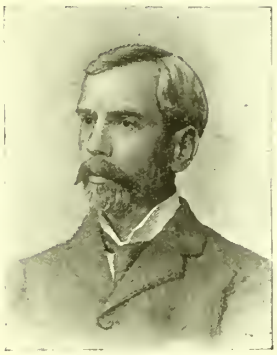
W. Shakespear

Midland Men of Mark

W G Cross

C. Corfield

F. Fletcher



H. W. Jones

A. Southall

Alderman Steward

A. W. Southall.

A W. Gerrard

A. Blackbourn

J. Wakefield

J. Cuxson

J. A. Steward, President of the Worcester and District Chemists' Association, was in business twenty-eight years at 27 High Street, Worcester, and retired in March 1905 in favour of his eldest son, Charles A. Steward. The business was one of the good old-fashioned type, having been established in 1776. We have had occasion to refer to Mr. Steward's public work, which is so good that we are almost tempted to give it in detail once more.

C. W. Turner is a Vice-President of the Worcester and District Chemists' Association, and proprietor of the business of Anderson & Virgo, Worcester, which has been in existence for about a century.

John Wakefield, Ph.C., proprietor of Messrs. Bellamy & Wakefield, was in 1873 apprenticed to Mr. John Bellamy, then proprietor of the Easy Row pharmacy. He passed the Minor examination in 1877, on the completion of his apprenticeship, and in 1879 he was assumed as a partner by Mr. Bellamy. Three years later he passed the Major examination. When he joined the firm store competition was just beginning to make itself felt, and Mr. Wakefield set himself to fight it. In 1879 he published Bellamy & Wakefield's first cash price-list, and was probably the first pharmaceutical chemist to adopt the system of cash prices of pharmacy. The firm at that time employed three assistants, but the new method of conducting the business proved so successful that before the end of the century the staff had increased to twenty.

F. A. Willcock is another of the Wolverhampton Chemists' Association members who have joined with Midland chemists generally in welcoming their *confrères*.

Col. W. F. Wyley, F.C.S., is the head of the business of Wyleys, Ltd., Coventry, to which reference is made elsewhere in this issue.

We have already mentioned the other gentlemen whose portraits are given in connection with their pharmacies.

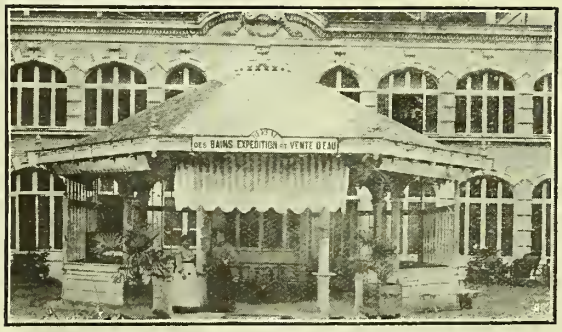
Letters from a French Hydro.

By an English Pharmacist.

Letter 1.—Being ill is bad enough, but being cured is decidedly worse, so far as I can see at present. But a few notes on the place, if they interest you, may temporarily turn my thoughts from their usual channel, which is that of Hamlet's, "To be or not to be."

Historical place? Rather. The people have used these springs since the sixteenth century. They are good for skin diseases, you know; and there were plenty of cutaneous disorders about in the good old times, when pharmacists had no need of side-lines like soap, brushes, and so forth.

Some enterprising Frenchman asked himself whether they were not better than all the waters of Israel. "May I not wash in them," said he, "and be clean?" And history tells us, in the most Scriptural of phraseology, that his flesh came again as the flesh of a little child. After this they tried it for rheumatism, ulcers, etc., and now it has quite a reputation, being the only French establishment for the cure of phlebitis and vein troubles.



Our daily life? No one lives at Bagnoles. We lodge and we exist, we hibernate—life is impossible in such a place. We are, I believe, in what they call Lower Normandy. Ferté-Macé seems the nearest town, some 265 mètres above sea-level, and in a sort of a shelled gorge or valley surrounded by rocky mountains on a small scale. There are two groups of springs, one called the Grande Source, and the other the Ladies' Spring and the Fairies' Spring. The names are poetical, the usages less so. The Grande Source gives some 5,000 gallons hourly, and supplies all the baths and so on; its temperature is 26° C. The other springs are only used for drinking; the water is ferruginous, and registers 10° C. But I must get to bed; I have to rise at 5.30 A.M.

Letter 2.—How does one get through the time from 5.30 A.M. till 10 P.M.? Mostly by boring oneself and the "treatment." I will spare you the former and try and recount the latter.

The reason for this early rising is to go to the baths. They open early, and one must be punctual; if I lose my turn, I have to wait indefinitely for a vacancy. So one likes to get it over. One goes there in the omnibus; in fact, Bagnoles is quite lively in the early morning with this constant procession of vehicles—carriages, 'buses, motors—between the hotels and the baths. The "Etablissement" is a big place—its architectural beauty reminds me more of a railway station than anything else I can think of—but it is exceedingly well arranged. I wish I could say as much for the hotels, where nothing seems of a high order except the prices.

But I promised not to growl, and I will "return to my muttons," or rather to my bath. Its temperature is 35° C. (raised from the original 26° by artificial heating); its duration is thirty minutes at present (it varies from twenty-five to forty-five minutes). One usually takes the daily paper there to stimulate one's mind while the silicates, sulphates, and chlorides of the water stimulate one's outer man. Then one drinks a glass of the Grande Source water, 26° C., insipid stuff enough, and no special taste. Once back at the hotel, a couple of hours in bed is recommended by the faculty. I profit by it to "read up" in view of my coming examinations.

An hour's walk is recommended before the usual French midday lunch is taken, followed by coffee and cigarettes and interminable discussions on anything that happens to be uppermost in to-day's papers. More reading, letter-writing, and another little walk fill up the time till dinner, with another glass of water at 5 P.M., and possibly a look-in at the Casino. The "petits chevaux" are the only excitement in Bagnoles, except the theatre, where the usual French farces and "chansonnettes" of the music-hall type seem the chief attractions.

And after dinner? Well, thank goodness! there is not much after dinner. We sometimes go to a café, play cards, and smoke. But everybody goes to bed at ten here, having to be up so early. And I will do so.

Letter 3.—Who comes to Bagnoles? Certainly a fairly well-to-do class; this I am assured of by the prices at the hotels. At this unpretending little place we have men of the professional classes—a banker, a doctor, and so on. And (between ourselves) any amount of old girls—maiden ladies and otherwise. The fact that Bagnoles has the reputation of rejuvenating people is, of course, the cause of its popularity among the fair(?) sex. In fact, I daresay you have noticed the armorial bearings (crest or coat of arms) of the town is a horse—an old horse made young and frisky by taking the waters. So they go and do likewise, but none of them have become very young and attractive yet.

Letter 4.—You ask the usual length of treatment. Twenty-one baths—some go as far as thirty. A douche of the water (at 37° C.) on the body—the legs protected by a screen—with alcohol frictions, is also recommended by some doctors as an aid to the circulation. After some days' treatment the skin feels soft and silky and the muscles become rather flabby. This fact, combined with the heat of the bed afterwards and the walking exercise sufficiently explains the reputation of Bagnoles for vein troubles. Six doctors are attached to the Establishment; they pass the morning going from cabin to cabin examining patients.

I am told that the Duchess of Connaught came here for several seasons, and was much benefited by the treatment, and that Sir Lauder Brunton sends patients to Bagnoles.

I cannot close without adding that the pharmacien here assures me he has quite a large *clientèle* of English-speaking visitors during the season. He says that he dispenses a considerable number of English prescriptions, and "finds no difficulty with them." As he does not understand English, and has no assistant who does, and keeps no English galenical preparations, I told him I thought he was very clever. And I think he also shows some temerity.

Reviews.

Atlas of the World's Commerce. By J. G. Bartholomew, F.R.G.S. 6*d.* net per part. To be completed in 22 parts. London : George Newnes, Ltd.

This is an original and valuable publication, especially to those engaged or specially interested in the principal commodities of commerce. We may take Part 2 to illustrate the nature of the work. It contains two sheets of maps. One shows the sugar-growing countries of the world, cane being depicted in red and beet in brown. On the outer sides of the sheet are diagrams showing at a glance (1) the development in the world's production of sugar, (2) total annual consumption of sugar, (3) annual imports of sugar, (4) consumption of sugar per head, (5) development in sugar-consumption in the United Kingdom, (6) sources of British sugar-supply, and (7) rise and fall in the market-price of sugar (1785-1900). The second map in the part deals similarly with cotton, and the number contains four pages of a dictionary of the commodities of the world. The latter is well done, considering the space devoted to each article, and the more important commodities have diagrams showing annual production or imports. In Part 2 the articles so treated are borax, brandy, and champagne, each showing important facts at a glance. The Atlas should be a profitable investment to business men.

The Medical Annual: A Year-book of Treatment and Practitioners' Index. Text 724 pages. 7*s.* 6*d.* net. Bristol, 1906 : John Wright & Co.

With a staff of thirty-two British, American, and Continental contributors this annual volume gathers in value as it becomes older. The publication has reached its twenty-fourth year, and is, we believe, well appreciated by medical men, especially those who through the stress of increasing daily work cannot do more than skim periodical medical literature, and need such a reference-work as this on occasions to give them points in new treatment. We are reminded in this connection that in spite of all that has been said on behalf of medical men about the drug-traveller nuisance, it is a fact that busy practitioners do not object to an occasional chat with a well-informed representative who can tell them about the latest treatment, and give information respecting the newest drugs. It is a similar function to this in a larger field that the Medical Annual fulfils. It gives a general review of the therapeutics of the past year, the chapter including a treatise by Mr. E. G. Morton, F.R.C.S.E., on radio-activity and electro-therapeutics ; then a dictionary of treatment, and the greater part of the volume is devoted to new treatment of several ailments in which specialising has reached a high level—*e.g.*, albuminuria, diseases of the heart and kidneys, phthisis, and enlarged prostate. Besides, the sanitary science and legal decisions of the year are reviewed, and the book contains many useful lists of institutions, directories, and excellent reference indices. It is well illustrated, stereoscopic photographs being again a feature.

Help for Chronic Sufferers. By H. Valentine Knaggs, M.R.C.S., L.R.C.P. Small 8vo. 135 pp. 5*s.* net. London : Jarrold & Sons.

"Persistent drug taking is gradually going out of fashion, and in its place more attention is being given to diet reform, to the necessity for brisk exercise in the fresh vital air, to free use of distilled water for promoting the action of the kidneys . . . . and, lastly, to vibratory massage." Thus the author in the preface to his quaintly printed book and as quaintly expressed views on the human organism in health and disease. The author might be called a medical nonconformist—that is to say, he does not worship the teaching of the schools, and seeks good in everything. For those in search of health he places seven steps, each being a chapter in the book. The first step is efficient digestion, (2) adequate oxygenation of the blood, (3) removal of the waste by dieting to cut off supplies, (4) flush freely the excreting organs with distilled water, (5) remove accumulated waste by increasing skin action, (6) train back disordered nerves to healthy action, and (7) control of the senses. The reasoning is evolutionary, a sound basis to go upon ; and with this the author works in the results of wide experience in restoring health by natural means. The book is one for the layman rather than the practitioner.

Preservatives in Food and Food-examination. By Dr. J. C. Thresh and Dr. A. E. Porter. 9½ × 6. Pp. 484. 14*s.* net. London : J. & A. Churchill.

As an outcome of the Departmental Committee on Preservatives and Colouring-matter in Food a report was issued in 1901 with minutes of the evidence upon which the recommendations were based. That report appears to be the foundation of this book. The information contained in the Departmental Committee's report is considerably supplemented by the authors and is brought down to the beginning of this year. It is a decided advantage to have the facts marshalled in this way, and a careful perusal of the book by medical officers of health and analysts should convince them that an uncompromising attitude is not always reasonable where harmless preservatives are in question. Preservatives have been used in food from time immemorial, and it is a poor compliment to modern science to contend that no new preservatives can be permitted to be used in preparing food. The authors remark that if the use of saltpetre and the smoking of fish and meat had been recently introduced there would have been a great outcry, but because the methods have been in use for so many years the analyst never questions their utility. It is admitted that there are preservatives, such as the fluorides and formaldehyde, which are quite unsuitable for use in food ; but when an outcry is raised against comparatively harmless substances like borax and boric acid, it is time to protest. As the matter stands at present it is impossible, in the opinion of the authors, to say definitely that a single case of illness has been conclusively traced to the preservative used in any article of food or drink. The chapter devoted to food-poisoning is one that will be read with interest at a time when the wholesomeness of tinned meats is in question, and it is here laid down that "few of the larger outbreaks of food-poisoning have been attributed to preserved foods, but . . . most of the smaller outbreaks have been due to the use of such foods." The remedy for most of the cases of illness traced to milk and food would appear to be more efficient supervision of the dairies and *abattoirs*. Dairies and bakeries are known to be often very carelessly kept, and steps should be taken to render operative the by-laws regulating these matters. As to slaughter-houses there is room for much greater cleanliness, but it is hypercritical to expect perfect conditions amid surroundings which are necessarily disgusting to sensitive people. An interesting and useful portion of Thresh and Porter's book is that dealing with the detection of preservatives in food. Directions are given in detail for testing for all the usual preservatives. Peroxide of hydrogen is apparently the newest milk-preservative, the method of Dr. Budde, of Copenhagen, being used on a large scale in Denmark. The peroxide is added to the milk at 50° C., and splits up into water and oxygen, so that nothing injurious remains in the milk. The nascent oxygen exerts a sterilising effect, and if it does not affect the enzymes of the milk it should be of distinct service as a harmless means of retarding the decomposition of milk. A selection of legal cases is given in the concluding chapters of the book, and eight plates illustrate various injurious bacteria that have been detected in food.

The Law of Licensing Affecting the Sale of Intoxicating Liquors and Theatres, Music and Dancing Halls, and Billiard-rooms. By J. B. B. MacMahon, B.A., of the Middle Temple, Barrister-at-Law. 8½×5¼ in. 416 pp. 5*s.* London, 1906 : Effingham Wilson.

This most involved department of law is treated by Mr. MacMahon in a remarkably attractive and orderly manner. The book begins with indexes of cases and statutes, then in Part I. are fifteen chapters dealing with the manner in which licences are granted, withheld, withdrawn, or transferred, such subjects as covenants and appeals also being included. Part II. is concerned with offences and their consequences, register and legal proceedings. The author is to be congratulated on the production of a really interesting book, and one which specially appeals to laymen, not because it is written for them, but for the reason that it is well designed, the facts are presented clearly, and the tabular method of summing up sections of the subjects is most useful. These characteristics will also appeal to practitioners, for in every instance references to statutes and deciding cases are given, and there is an ample index.

Thomas Barclay, Ph.C., J.P.,

Chairman of the B.P.C. Local Committee at Birmingham, 1886 and 1906.

THE fortunate owners of a file of this journal occasionally amuse themselves by turning up old volumes, and among the things that rivet their attention are the portraits of the notables in pharmacy which formed "The Chemist and Druggist Portrait Gallery." The first series of these, published in the 'seventies, were lithographs, and the second engravings, drawn on the wood by one of the best portrait artists of the time, and engraved at a cost beside which modern half-tone engravings are a mere trifle. No. XXIV. of the second series in our issue of December 15, 1876, was signed "Yours faithfully, Thomas Barclay," and we reproduce it (along with a 1906 one) in reduced facsimile as a not unfitting introduction to the gentleman who has played the part of chief host to the British Pharmaceutical Conference at Birmingham this week. The year will be noticed—1876. Mr. Thomas Barclay was apprenticed in his sixteenth year; he was admitted a partner by Messrs. Southall Bros. in 1866; he had Reynolds recommended Mr. Barclay as traveller, and he got the appointment. He was made a partner in 1866, although he had a tempting offer to go back to Messrs. Mawson & Swan, Newcastle, and when Mr. Dymond died the firm name became in 1874 Southall Bros. & Barclay. The present position of the business among wholesale concerns is the best evidence of his devotion to its interests, and we need not follow it further, seeing that our present object is to give some account of his services to the craft.

Mr. Barclay became a pharmaceutical chemist in October 1869. He was President of the local Chemists' Association in 1874 and 1875, and it was while serving the second term of office that the opportunity came to him of doing a service to the whole trade. The Sale of Food and Drugs Act, 1875, was followed by a crop of unfair prosecutions of chemists and druggists, who were greatly harassed through the ignorance of the analysts and magistrates in working the Act. At that time, as now, chemists and druggists

1876. 1906.

Mr. Thomas Barclay.

become so prominent a man in the British drug-trade in 1876 that he figured in the galaxy of notables; in 1886, he received the B.P.C. at Birmingham, again in 1906, and he still counts his years by sixties. We daresay other sixes figure in his calendar—*e g.*, when the business with which he is associated became a limited company there were six directors of it.

It is not easy to write of Mr. Thomas Barcley without reference to the business with which his name is associated, but that is our purpose, since it was solely as a private gentleman and a pharmacist that he this week figured so prominently in Birmingham as the leading host of his pharmaceutical *confrères*. But the difficulty is minimised by the fact that in his time Mr. Barclay has in trade and public interests played many parts. Sunderland is Mr. Barclay's native town, and the late Mr. John Mawson, of Newcastle-on-Tyne, was his apprentice-master. When his apprenticeship was completed Mr. Mawson gave him increased responsibilities, and allowed him when visiting Leeds to call on Mr. Richard Reynolds, of Messrs. Harvey & Reynolds. Mr. Reynolds was struck with the cheery-faced lad. When Mr. Thomas Southall, of Southall, Son & Dymond, died in 1861, and Mr. George Dymond had to give up "the road," Mr.

occupied quite a unique position among other traders, and in small country towns especially they were looked up to by their fellow-townsmen with a great amount of respect because of their education and the nature of their business. When these men were "hauled over the coals," and fined by the Magistrates for selling adulterated drugs or preparations, it so degraded them that they felt the matter most acutely, for men who had never had a breath of suspicion raised against them considered it a disgrace to be prosecuted. A great outcry was made against the Pharmaceutical Society for not protecting chemists against these attacks. Trade defence was not exactly in the Society's charter, and the Council of the day was not inclined to stretch the Society's powers in that direction. At this juncture Mr Barclay called a Conference of representative men to meet in Birmingham to consider what could be done to protect chemists from unfair prosecutions. The Conference assembled in the Y.M.C.A. rooms in Needless Alley on July 11, 1876. It was a large and enthusiastic meeting of leading chemists from various parts of the country, representing about 1,200 chemists, and at that meeting the nucleus was formed of an association, which became the Chemists' and Druggists' Trade Association of Great Britain, and officers and a committee were appointed. Im-

mediately 377 members were enrolled, and nearly 300*l.* was promised in support of its objects, which were the protection of the legitimate interests of chemists and druggists from unfair attacks and encroachments, the promotion of their common welfare, and their defence from vexatious prosecutions under the Adulteration and Medical Acts. The first general meeting was held in Glasgow on September 6, 1876, during the sitting of the B.P.C. At that meeting a solicitor, secretary, and analytical referee were appointed. The Hon. Secretary reported that the number of members had then risen to 1,200, and on September 29 the Association took possession of permanent offices at 23 Burlington Chambers, New Street, Birmingham. In 1877, on the presentation of the first annual balance-sheet, it was reported that there were 2,880 members, and that 1,028*l.* had been subscribed to the funds. During that year 326*l.* 12*s.* 8*d.* had been expended in law-costs. Among other cases the Association had been called to defend was that of an attack by the Apothecaries' Company on Mr. Shepperley, a Nottingham chemist, for counter-prescribing. Five cases were brought against him, and when the summonses were heard at Nottingham four out of five fell through. The fifth was for supplying a gargle for which 1*s.* was charged. The informer's name was Death, and Shepperley told him that nothing was the matter with him, but he said, "I will give a gargle if you like," for which he charged 1*s.* The case was lost, but the Association gave notice of appeal, which was held in the Exchequer Division of the High Court of Justice in London. Sir Henry James, Q.C., and two other counsel argued the case for Shepperley, with the result that the Judges ordered a new trial, so that the case might be taken from the Nottingham County Court into the High Court of Justice, and that it might, if necessary, be carried to the House of Lords. In that year the membership of the Association rose to nearly 4,000. The Shepperley case was again tried in November, and a verdict was given for the defendant. Shortly afterwards the Apothecaries' Company entered a motion in the Court of Appeal to stay judgment and move for a new trial on the ground of misdirection of the Judge, but the Judges refused a new trial, and on January 27, 1878, the solicitor for the Association received notice that the Apothecaries' Company had abandoned their appeal. The Association in 1879 had 4,346 members, and during the current year the sum of 2,443*l.* was paid to the Treasurer in the way of subscriptions and donations. The law-costs that year amounted to 841*l.* 14*s.* 6*d.* In 1880 the membership rose to 4,527, and the Association had a great deal of work to do. Among other things it had to deal with the new regulations *re* weights and measures, and the Trade-marks Act. It had also to take up the question of what medicinal preparations are liable to stamp-duty. Mr. Barclay, with other members of the Association, went as a deputation to Lord St. Cyr (son of the late Lord Iddesleigh), Chairman of the Board of Inland Revenue, and one result of that interview was that the Board undertook to mark labels "Liable to duty" or "Not liable to duty"—a concession to the trade so valuable as almost to justify the existence of the Trade Association. Mr. Barclay is inclined to think it was mainly through the instrumentality of the Association that under the Sale of Food and Drugs Act the authorities were compelled to divide the sample they purchased into three parts. Previous to that time the inspector only took one sample, leaving nothing with the tradesman, who was consequently entirely at the mercy of those entrusted with the enforcement of the law. Writing in regard to the Trade Association in 1876 we said:

> Mr. Barclay has provided an association in which the smallest pharmaceutical trader can, if he will, exercise an influence, and one which has already shown to would-be enemies of the trade how much more serious an affair it is to attack a phalanx than to dispose of twice the number of men in disarray.

The Association did not reach its teens, for by the time that Mr. W. Gowen Cross became its President in 1886 it had accomplished all that it started out to do, and individual ambitions had been satisfied in various other directions. Mr. Barclay was heart and soul with the Association to the end, but he never professed to do more than inaugurate it, and incite chemists to help themselves in righting their wrongs.

When the International Pharmaceutical Congress was held in London in 1881, Mr. Barclay was a member of the Executive, and was asked to read a paper, in association with Mr. Chr. Brunnengräber, of Rostock, on "The Relation of Pharmacists to the Medical Profession and the Public." To obtain the information for this paper Mr. Barclay sent to the countries of the Continent, and to the United States and other countries, a schedule of questions printed in English, French, and German. This brought him a vast amount of information, and it was his intention, after reading the paper, to take up the question on public grounds in this country, so as to bring about by a mutual understanding the separation of prescribing and dispensing. With that object he saw the late Mr. Ernest Hart, of the "British Medical Journal," and laid before him his plan. Mr. Hart said that he was ready to co-operate with Mr. Barclay in attacking the public. They agreed upon a plan, but Mr. Barclay's health broke down at this time through overwork, and the scheme was never carried through. How many millions does that mean to English pharmacy?

In that same year Mr. Barclay was again President of the local Chemists' Association. The topic of the time was pharmaceutical education. Mr. Thomas Greenish, as President of the B.P.C., had made this one of the subjects of his presidential address, treating it geographically—*i.e.*, showing how centres of pharmaceutical education might be established throughout Great Britain. Mr. Barclay in his address took up the details, and submitted a scheme of three years' study embodying sixty lectures in theoretical chemistry, twenty in physics, 360 hours' practical chemistry, forty-eight lectures in botany, forty in materia medica, and ten lessons a year in pharmacy and dispensing. A feature of the scheme was that the Pharmaceutical Society should examine the students at the end of each year, this going for their qualification. We observe that in an appreciative article on the matter we then said (*C. & D.*, November 27, 1886, p. 710):

MRS. T. BARCLAY.

> All this is very good, especially if the Pharmaceutical Council will pass an educational vote of a few thousands annually. We do not think that this is at all likely to happen, and as subsidisation and compulsion are at the bottom of the whole scheme, we fear it will follow its predecessors, and provincial education generally, into obscurity and neglect. It may be a pity that it should do so, because the scheme provides a more reasonable means of education than any other; but pharmacy is not yet ripe for it, nor is the demand for education so great or urgent that it cannot be met by personal effort.

Events have realised the prediction, but we believe that Mr. Barclay is still of opinion that his scheme "holds the field," and we trust that it will remain there until his aspirations as to the separation of prescribing and dispensing are realised and justify its enforcement.

As a citizen Mr. Barclay has done his fellow-men distinct service. In 1875 he was elected one of the first members of the King's Norton School Board, and remained on the Board for eight years, retiring to enter the Birmingham City Council, which he did in 1885, and remained on it for nine years. Being a member of the Water Committee of the City

Council, he was one of the pioneers of the scheme for bringing Welsh water to Birmingham, and in 1891 wrote a book entitled "The Birmingham Water-supply," which has gone through several editions. In 1894 he was made a J.P. for the county of Warwick, and he has recently been appointed J.P. for the county of Worcester. He is an ardent Methodist, and in 1887 became Treasurer of the Birmingham Central Mission, and still holds the office, helping to raise something like 9,000*l.* a year for religious and social work. In this work he is aided by Mrs. Barclay, the daughter of Mr. Edward Pethybridge, the senior partner in the firm of Dingley & Pethybridge, bankers, Launceston, Cornwall. They have a beautiful home at Blackwell, about thirteen miles from Birmingham, and nowadays Mr. Barclay may be seen on his way hither and thither in a 20-h.p. Wolseley-Siddeley motor.

At the Counter.

The Doctor: "Yes, I understand what ails you. You can't sleep. Take this prescription to the chemist's." (*Next day.*) "Good morning; you look better to-day. Have you slept well?" Paterson: "Like a top. I feel like a new man."—"How many sleeping-powders did you take?"—"I didn't take any. I gave a couple of them to the baby."

A New Side-line.—A note recently received by Mr. J. Ettles, of Sheerness, and transmitted to us, suggests, as Mr. Ettles remarks, a new side-line. It runs: "Sir please do you clean Gentleman's hard hitter Hats or if you dont please can you tell me what stuff you sell to clean it with." The renovation of bowlers appears to be a branch which the up-to-date cash-chemist might find profitable.

Messrs. Green & Co., of Swindon, had a request recently for "1*d.* pcts of condeck flouade." A Bridlington apprentice was worried by a badly written order for "Half bromde f tosum and salvety Little." Messrs. Floyd & Co., of Bury St. Edmunds, received an envelope addressed "Mrs. loydes and Coe kimisters berry St. edemans," with a note enclosed asking for "to bottels of Lodman" and "plees to do it up scure."

A Fact.—Youth (to Chemist): "Have you got any bill-files?" Chemist (surprised): "Eh! What?" Youth (confidently): "Files what you put bills on." Chemist (more surprised): "Have you ever bought such a thing at a chemist's?" Youth (dubious): "Is this a chemist's?" Chemist (indignantly, pointing to shop-bottles): "Can't you see these bottles?" Youth (collapsed): "Oh, I didn't know; I'm a stranger about here!" Tableau.

Please Sir can you send me
somethink for my Baby as
he had know sleep for 3
days and 3 night put it all
together he aint sleep 1 hour
and he cannot keep anythink
down bring up every think
is milk and he has the
breast he wont take
to a bottle and he aint
the same child he lost is
fat in that time i sent
this 2*d* to see what you
can do for me
the baby will be 5 monts
28 of this month

The above, not at all badly written, was received by Mr. F. H. Rowcroft, and duly attended to. He thinks it will amuse our readers.

Miscellaneous.—Isolated eccentricities from many quarters of England reach us by almost every post. Some of the most noteworthy lately received include orders for "quenereian" and "bar carbent soder" from Hendon; "Castears lickwit," "oil of amburg," "ungary water," "flying blister," "glyserin repository," and "drying hackram plaster," from Itchen; "Catsgarters" from Bournemouth; "diagnal rock" from Holloway, N.; "1*d.* box of intellecture" from Grays; "hat-soda form gauze" from Paddington; "silly-cycle soda" from Ticehurst; "joblup" and "horizontal powder" from Burslem.

In the Buffer State.

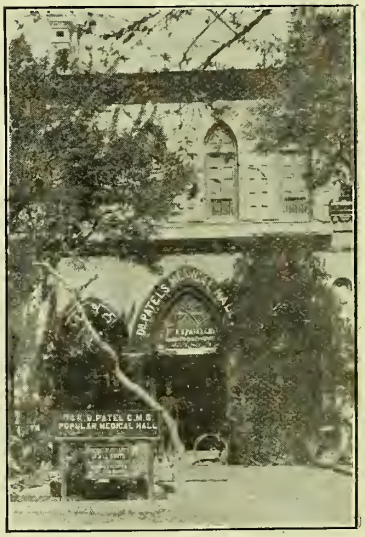
By W. T. Monro.

Among British possessions and protectorates there is none concerning which the British public displays such a wealth of ignorance as that which forms, as it were, the buffer between our Indian Empire and the territory of the Ameer of Afghanistan.

In all Baluchistan there are only two European chemists (both Scotchmen), and even one of these two has developed into more of a general storekeeper, selling groceries, wines and spirits, ironmongery, and saddlery. Of native chemists and native doctors (or practitioners as they prefer being termed) there is a countless array, and I will try to give readers of The Chemist and Druggist some idea of the style of business and business-methods of these native pharmacists and native medical practitioners of Baluchistan.

Many of these so-styled medical practitioners have the C.M.S. or L.M.S. qualification, or both, but many more have no qualification whatever beyond an anything but intimate knowledge of drugs and an intimate knowledge of native character and of the convincing effect of "bluff" on the native mind. With regard to the qualifications just mentioned, the first—the C.M.S. (certified in medicine and surgery)—is obtained at Hyderabad, Poona, or Ahmedabad, and to secure it the student must undergo a course of instruction in the medical colleges of either of these centres. This three-years' course embraces in the first year lectures on chemistry, anatomy, physiology, dissection, materia medica, and surgery. In the second year the same subjects, with the addition of midwifery and medicine. In the third year the course includes all the above subjects, with the addition of toxicology. The L.M.S. (Licentiate in Medicine and Surgery) is obtainable at Bombay, and the subjects to be studied include comparative anatomy and botany in addition to those mentioned for the C.M.S. qualification. On passing out of either of these colleges the student may enter Government employ as assistant surgeon in the third grade, when he receives the handsome remuneration of Rs. 40 (2*l.* 13*s.* 4*d.*) monthly. In this grade he continues for five years, after which he becomes a second-grade assistant surgeon at an increased salary of Rs. 55 (3*l.* 13*s.* 4*d.*), and in this grade he continues for a further period of five years. Then he reaches the senior grade, and his salary is further increased to Rs. 85 (5*l.* 13*s.* 4*d.*).

The first practitioner I visited was Dr. K. B. Patel, of Quetta, and from the accompanying photograph it will be seen that his surgery might be mistaken for a chemist's shop but for the board setting forth his qualifications. Dr. Patel obviously does a very fair business, for he can afford to buy his drugs direct from England. Inside, his surgery had all the appearance of the usual small chemist's at home. Two rooms, I noticed, were cut off from the shop in general. One had a ticket over the doorway signifying it as the "Dental department," and the other similarly was labelled "Eyesight-testing room." On entering the latter I found none of the paraphernalia of the oculist. In the room was a couch on which my worthy friend reposes during the heat of the day. The doctor's business is chiefly concerned with



The Lower Placard tells that Spectacles and Frames of all Sorts are Supplied.

the minor ailments of the natives, and for these ailments a 10-grain dose of calomel is his most frequent remedy, or a similar dose of antifebrin when fever, headache, or aches in general is the cause of the trouble. A native seems to have some boiler-tube arrangement in his internal anatomy, for anything less than 7 grains of calomel is but playing with him.

At the next surgery I looked into I found a billiard-room

Sipahimalani's Surgery.
Showing a new side-line (to the left).

and drinking-bar as side-lines to the business, and refrained from pursuing my investigations further.

Continuing my way through the filth and squalor of the native bazaar, I called upon Dr. Ranyi, whose practice is with the better class of natives. His surgery was more like an actual surgery than that of either of the others visited. Dr. Ranyi does no retail business, and his surgery has all the appearance of a hospital dispensary at home. In matters pertaining to the profession I found him well up to date. He was acquainted with all the newest remedies, and showed me a stock of all Parke, Davis & Co.'s latest preparations. I also found him to be much interested in The Chemist and Druggist, and my offer to let him have the use of my weekly copy was accepted with alacrity and profuse thanks. As one or two natives came in claiming his attention I was compelled to terminate a discussion on native remedies with a promise to call on him again soon. The interior of Dr. Ranyi's surgery was too dark to take a snap-shot.

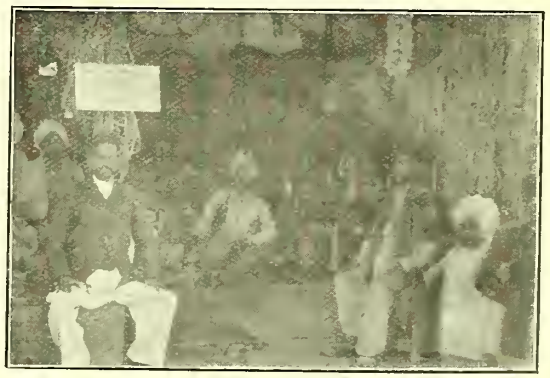
The native druggists, or "hakims" as they are called in Hindustani, are a less interesting class than I had anticipated. The interior of a native shop in a crowded native bazaar is by no means a very inviting place to carry on a conversation, especially when the discourse has to be in a language other than one's own. The first shop I visited was that belonging to a gentleman of the name of Hajee

Rahimtoola's Drug-shop.

Hashim Rahimtoola. I had better first explain, for the benefit of *C. & D.* readers who are not acquainted with the internal geography of an Indian bazaar street, that in the bazaar the shops are all shop, such a thing as a window being unknown. The photo of the bazaar I visited will give some idea of what is meant. At Hajee Hashim Rahimtoola's I found that worthy gentleman reclining on a heap of native tobacco and peacefully enjoying the soothing effects of his hookah. Wishing him "Salaam," I informed him of the purpose of my visit; I was also a "dawa-adhmi" (druggist) like himself and wanted to have a look round his shop. He seemed a genial sort of fellow and asked me to sit down. As no chair was in evidence I sat myself upon a kerosene-oil tin filled with rock-salt. After replenishing the voluminous bowl of his hookah, Mr. Rhimtoola entered into a detailed account of how his son, the apple of his eye, had been ailing for the last week with fever, and what a promising youth he was. I was obliged to cut short his family history by promising to cure his son if he would send him round to my place, and began to examine his establishment. On one side I found about

View in the Hakims' Bazaar.

a dozen rows of kerosene-oil tins, three tins deep; these contained chillies, areca-nuts, mustard-seed, linseed, and linseed-meal, barley sugar, dried pomegranates, caraways, fœnugreek, cloves, areta-nuts (a nut used by the natives for bleaching-purposes in washing clothes), gums of various kinds, cinchona-bark, gentian-root, peppermint, sandalwood, and various other native roots and barks of which I know not the names. On the other side were displayed, in empty



Native Hakim's Shop.

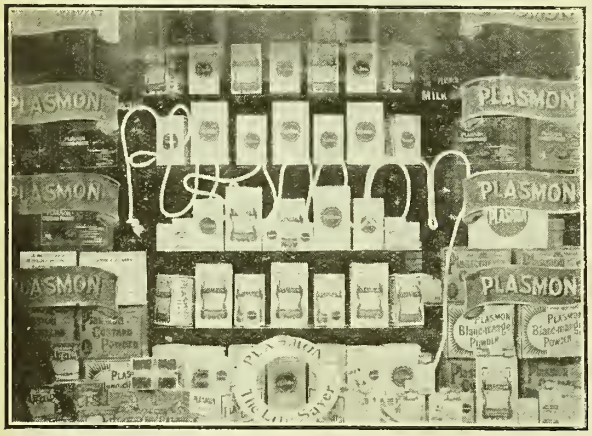
jam-tins, cigarette-tins, bags, or in absolutely anything that would do for storage, sulphur, alum, borax, a series of queer and obnoxious-looking resinous concoctions which I had never before seen, and liked less, sandstone, chalk, indigo, and so forth. Above these, in what I may be permitted to call the fixtures—rude partitions constructed from old boxes—was a display of brandy-bottles filled with mixtures of various kinds and colours. These, on inquiry, I found were mostly remedies for fever, cholera, and cramp. One partition was filled with 1-oz. vials of oil of cloves,

Indian sandalwood, copaiba, cubeb, and lizard oil. The last-mentioned oil is a favourite specific among the natives for rheumatism. It is obtained by cutting up the lizard into small pieces (a large variety of lizards, the guana lizard, quite common in India, being used) and boiling in a small quantity of water for a couple of hours. In this way the fat is extracted and the boiling continued until all the water is boiled away and the skin frizzles and dries up, leaving the oil. As only a small quantity of oil is obtained from each lizard, this remedy, having a considerable reputation, commands rather a high price in the bazaar.

After leaving this shop I visited several others, but found them all more or less alike in appearance and contents.

Chemists' Window-displays.

WINDOW-DRESSING is becoming as much an art with the chemist as with other shopkeepers, and there are few live pharmacists who do not appreciate the benefits, pecuniary and otherwise, of a well-dressed window. Except



"The Life-saver."

in isolated instances, the day of the carboy and the specie-jar has gone, and nowadays attractive displays are *de rigueur*.

A few months ago a series of articles on "Window-dressing for Chemists" appeared in "Advertising"—a monthly

"The Bath."

publication issued from 101 Fleet Street, London, E.C. These articles have apparently been helpful to chemists, one of whom—Mr. A. L. Burgess, of St. Sampsons, Guernsey—has sent to our Fleet Street contemporary some photographs of displays he has made in his windows which have met with much success. Through the courtesy of the editor of "Advertising" we are enabled to reproduce these.

In commenting on his methods Mr. Burgess says that he makes it a rule to avoid anything likely to lead to overcrowding in a window and to make, as far as possible, "every window tell a story." The first display is devoted

"Asleep."

to exhibiting in a striking manner the virtues of "Plasmon" and its preparations. The central feature is the lifebuoy, bearing the legend "Plasmon—the life-saver." Packages of Plasmon surround the centre-piece, and showcards are carefully placed here and there. To the lifebuoy is attached a white rope with which the word "Plasmon" is constructed, the tail of the "n" running down to the buoy, thus establishing a definite and obvious connection between the food, the buoy, and the life-saver. In another window "Plasmon Oats" formed the subject, a large sheaf of oats being the centre-piece and a border of oats running round the sides and top of the window.

In the second picture a baby is undergoing a bath at the hands of a uniformed nurse. The adjuncts to the "human"

"Awake."

figures are chaste and ornate. They betray the practised style of the Erasmic Co., Ltd., whose windows have been an attraction to the feminine shopper for years. In the particular case taken by Mr. Burgess the "Erasmic soap for tender skins" is the point emphasised. The fact that the soap is used by a nurse for a baby's skin is sufficient suggestion of its character. This everyday incident would be likely to appeal to all observers.

The other two illustrations depict a story in two parts describing the fondness of the child for Mellin's food. Mr.

Burgess explains that his windows are 7 ft. long, 6 ft. high, and 30 in. deep. For the Mellin's food display he papered and carpeted the interior of one window and fitted it up like the inside of a room. A full-sized cradle contained a life-size doll at rest, while on a table near by stood an open bottle of Mellin's food, with spirit-stove and kettle, jug, basin, spoon, etc., and a feeding-bottle containing the prepared food. The display remained like this for some time, and was then altered to form the sequel as shown in the next picture.

[We are always glad to receive photographs of windows or other business-attracting features from our subscribers, and we pay for what we use.—EDITOR *C. & D.*]

A German Pharmacy.

WE have recently received through the courtesy of Mr. R. Balch, of Messrs. Scott & Bowne, Ltd., several beautiful photographs of the new Engel-Apotheke (literally the "Angel Pharmacy") at Frankfort-on-the-Main, one of the oldest privileged pharmacies in Germany, which has been

ENGEL-APOTHEKE.

rebuilt and occupied by the proprietor, Mr. D. Szamatolski. The increase of business and modern developments of pharmacy in Germany, which takes on a good many side-lines, such as analyses, compelled Mr. Szamatolski to pull down his old premises, which had been the home of the Angel Pharmacy for hundreds of years.

The new edifice has an extremely handsome exterior. It is built of stone and steel, with ornaments of bronze, and many carvings and adornments in the stone itself. The foundation-stone was laid on August 7, 1905, by Dr. Franz Adickes, in the presence of a large company. The history of the pharmacy was placed in the corner-stone, and this history shows that the original "Engel-Apotheke" was privileged on November 10, 1629, by the Emperor Ferdinand II., and it has existed continuously from that day to the present.

The ground floor contains the pharmacy itself and various rooms for the shipping of goods and the control of the business. The interior decoration is of oak, beautifully carved with sculpture work on the ceiling, and mosaic floors, the whole being artistically lighted by electricity.

On the same floor with the dispensary are rooms completely fitted for microscopic work, chemical analyses, and other work of a laboratory nature. The cellars are used for the storage of drugs.

In the manufacturing laboratories there are distilling-apparatus, powder-mixers, ointment-machines, sterilising-apparatus, as well as other pharmaceutical appliances.

THE DISPENSING DEPARTMENT.

Above are five floors devoted to the wholesale business. The Engel-Apotheke is the direct representative of a great many makers of pharmaceutical preparations in the United States, England, and other countries, and the present

THE RETAIL COUNTER.
Mr. Szamatolski is attending the customer.

arrangements are calculated to facilitate this business. The Angel Pharmacy is a distinct addition to the pharmaceutical buildings of Germany, of which it is now probably the largest. Mr. Szamatolski will be delighted to see any of his English *confrères* who pass through Frankfort.

A SERIOUS FIRE broke out in the Bruns Pharmacy, Moscow, accompanied by a series of explosions. The pharmacy was completely destroyed, and the total damage is estimated at 20,000*l.*

JAPANESE PATENTS IN CHINA.—Mr. K. Nagataki, the Japanese Consul-General at Shanghai, has issued instructions regarding the sale of proprietaries in China. Patent-medicine vendors are required to obtain a licence from the Imperial Japanese Consul-General after submitting their *bona fides* and the list of medicines they desire to sell. The licence costs 100 yen per annum, and due notice must be given to the Consul when vendors change their addresses, names, or alter the character of the medicines sold. The licences are not negotiable, and a fine is provided for non-renewal.

Decorated Pharmacists.

THE Belgian Government has paid a high compliment to pharmacy in that last month eleven Belgian pharmacists were decorated with crosses as Chevaliers of the Order of Leopold. The "Journal de Pharmacie d'Anvers" devotes the whole of the last issue to biographical details of the decorated pharmacists and an account of a banquet which took place on June 10 in celebration of the event. All the pharmacists are prominent men in Belgium, the following being brief accounts of their careers.

François Van Pelt is a native of Antwerp, where he was born in 1838. He obtained his diploma at Brussels Univer-

MM. Goossens, Van der Wée, Wodon, Ranwez, Derneville, Van Pelt, Daenen, Dulière, Gosset, Hendrix, Jorissen.

sity in 1862, and in 1866 succeeded to his father's business, which he has directed ever since. He was Secretary of the Antwerp Society of Pharmacy for thirteen years, and has also filled the position of Vice-President and President. He has published several articles on chemical subjects.

Arnold-Joseph Hendrix was born at Peer (Limbourg) in 1866, and obtained his diploma at Louvain University in 1888. He established himself in Antwerp in 1890, and was the only pharmacist actually in business who served on the Pharmacopœia Commission. His original work has been on pharmaceutical subjects, his last contribution being a paper on the "Sterilisation of Dressings," read at the Liège Congress.

G. Daenen was born at Louvain in 1831, and obtained his pharmacien diploma at Brussels in 1850. He has filled the position of hospital pharmacist and several other public appointments, but is now living in retirement. Mr. Daenen had already received several honorary distinctions.

Jules Derneville was born at Sivry (Hainaut) in 1836, and graduated as "candidat pharmacien" at Louvain University in 1857, the Liège University in 1859 granting him the diploma of pharmacien. He practised as a pharmacist at Houdeng-Goegnies until 1895, and has since devoted his time to politics and philanthropy.

Walter Dulière was born at Dampremy in 1862, and graduated at Louvain in 1883. He then devoted some time to analytical work, and after a brief time in business at Marcinelle set up at Dampremy as an analytical chemist. Mr. Dulière has published a book on drugs and many other smaller memoirs, the most recent being a critical study of the new Belgian Pharmacopœia.

Charles Goossens was born at Liège in 1862, and obtained his diploma in 1882 at the University of his native city, afterwards taking the degree of doctor of natural sciences. He succeeded to his father's business in 1890.

Léon Gosset was born in 1856 at St. Martin-Balâtre (Namur), and graduated at Brussels. He carries on business at Ixelles, and has held office in the Belgian Pharmaceutical Association, his particular bent being professional questions affecting pharmacy.

Armand Jorissen, born in 1853, took his pharmacien diploma and degree of doctor of natural sciences in 1876 at Liège. Gaining a travelling scholarship, he continued his studies at Strassburg and Würzburg, and then became a professor at the school of pharmacy of the Liège University, a position he still retains. He has published numerous articles on pharmaceutical chemistry, galenical pharmacy, and food-analysis. He is perhaps best known out of Belgium on account of his researches on the formation of hydrocyanic acid in the vegetable kingdom.

Fernand Ranwez, born in 1866, is also a doctor of natural science, obtaining his diploma at Louvain in 1887. He is professor of chemistry and practical pharmacy at Louvain and founder of the "Annales de Pharmacie." Dr. Ranwez is the author of several text-books on chemistry, and will be remembered as a member of the International Congress for the Unification of Heroic Medicines (1902) and President of the International Congress of Pharmacy which met at Brussels in 1897.

Louis van der Wee is a native of Lierre, where he was born in 1848. He obtained his diploma as pharmacien in 1872, but, instead of succeeding his father in a pharmacy which had been in the family for years, preferred to become a hospital pharmacist, obtaining the position of chief pharmacien in 1875. In 1880 he was appointed pharmaceutical chemist to Leopold II. at Laeken, and in 1885 obtained a similar position with the Count of Flanders. He takes great interest in matters affecting public health, and on leaving Laeken was presented by the inhabitants with an address of thanks for his public services. Mr. der Wee is now in business at Rhode-St. Genèse, near Brussels.

Alexandre Wodon was born at Anvelais in 1842, and obtained his diploma at Liège in 1863. On the death of his father in 1873 he succeeded to his business, but retired in 1901. By a melancholy coincidence Mr. Wodon died on the same day that the banquet was being held at Antwerp in his honour, although the sad news did not reach the pharmacists at the banquet.

The banquet of June 10 was a brilliant affair, the numerous speeches being interspersed with songs, several composed for the occasion. The festivities were kept up till daybreak.

ANCIENT PHARMACY AT THE LOUVRE MUSEUM.

Did you ever visit the Salle Civile in the Egyptian Museum at the Louvre? By going up the staircase near the famous colonnade one can reach it directly without wading through the weary length of the mummy museum, and with an intelligent guide it is really very interesting. All the "side-lines" which may have been "carried" by Cleopatra's chemist or Madame Potiphar's perfumer are here on view—combs and razors, mirrors and penknives, incense-burners. The little pots in wood and enamelled earthenware were to be placed on the toilet-table; they were made to contain various powders and ointments, but more especially the antimony-black, which gave an especial beauty to the eyes of the Egyptian belles. Some of the little vases were really pharmacy vials, as the inscriptions on them attest: "For stopping bleeding," "For calming pain," etc. The handsomest combs were brought from Assyria. A self-respecting *grande dame* of Pharaoh's Court would no more have owned to an Egyptian-made comb than a modern society leader to a dress made outside Paris. Many of the perfume-spoons are also Assyrian. These various perfumery-utensils often bear the figure of the god Bès—a misshapen dwarf, who seems singularly misplaced as the Cupid of Venus of the banks of the Nile.

The New Belgian Pharmacopœia.

By Thomas Maben, F.C.S.

THE third edition of the Belgian Pharmacopœia has recently been issued, and, although it contains nothing of startling novelty, your readers will be interested in watching the process of evolution in so far as it is exemplified by the adoption of new and the improvement of old remedies. The book itself is a handsome well-printed volume of 600 pages. The information is given throughout in two languages, the first half of the book being printed in Latin and the second in French. The contents of both are supposed to be identical, but here and there are what appear to be slips in the translation from French into Latin. There are also two indexes, the Latin index being very complete and accurate, and the French one much less so.

One of the first features that appeal to the reader is the increased official recognition of organotherapy, a new animal substance, adrenalin, being met with on an early page. This is described as the active principle of the suprarenal gland, occurring in the fresh glands of the sheep to the extent of about $\frac{1}{8}$ per cent., and $\frac{3}{4}$ per cent. in the ox. It is said to be not yet defined from a chemical point of view, but this statement is somewhat surprising considering that Aldrich, Pauly, Jowett, and other workers are all agreed as to the constitution of the principle. A qualitative test is given—ferric chloride producing a green colour, passing to violet in the presence of lime or ammonia—and a quantitative test, which, however, the average pharmacist will have some difficulty in applying. It consists in injecting the solution into a rabbit intravenously : 0.001 gram of active principle per kilo. of body weight should prove fatal, or 8 minims of the 1-in-1,000 solution per lb. of rabbit—an official recognition for the first time of the principle of physiological standardisation. It may be here noted that another physiological test has recently been proposed by Dr. Cameron, of Edinburgh, who suggests that adrenalin should be standardised by the amount required to neutralise the lowering of blood-pressure produced by $\frac{1}{100}$ grain of nitroglycerin. For this purpose 0.0075 mgm. of adrenalin is sufficient. Dr. Cameron in his paper states that adrenalin produces an effect when administered in a dose of 1 in 10,000,000—1 grain in 143 gallons of solution. The Belgian Pharmacopœia says 1 in 2,000,000 increases the blood-pressure. Both statements appear incredible to the mere layman. Of other new animal products may be mentioned antidiphtheria and antitetanus serums, tuberculin, and vaccine. The requirements for the first-named are that there be printed on the label the name of the maker, the date of manufacture, the potency, and the actual contents of the vial in c.c. The method for producing tuberculin is described, but apparently it is the crude tuberculin and not the TR that is recognised. It is preserved in glycerin and water, and diluted for use by the addition of a 5-per-cent. solution of carbolic acid. Vaccine is prepared at the public vaccine institute attached to the Brussels School of Veterinary Medicine. Thyroid glands are standardised : they should contain 0.0003 gram of iodine in the form of iodothyrine in every gram of fresh gland.

In accordance with the agreement arrived at by the International Pharmacopœia Congress, the tinctures of potent drugs are all said to be made of a uniform strength. The result, however, is by no means satisfactory. Apparently every pharmacopœial authority is to be allowed its own sweet will in the way it interprets the international requirements. In the U.S.P., for example, the tinctures of aconite, belladonna, and hyoscyamus are each made by percolating with spirit to make a 10-per-cent. tincture, which is standardised on the alkaloidal content. In the Belgian Pharmacopœia tincture of aconite is made by percolating any quantity of aconite and standardising the tincture on the alkaloid, but in the other cases, 10-per-cent. tinctures are made with no attempt at standardisation—surely a surprising omission. In the U.S.P. tincture of colchicum is standardised on the colchicine-content, while the Belgian Pharmacopœia requires that it should contain "at least 1 per cent. of dry extract." Considering that a number of the less potent tinctures are standardised, it is disquieting to notice the differences in the interpretation of the international agreement in so far as regards the potent galenicals.

Referring particularly to the attempt to bring about uniformity, I notice that of the extracts the following are to be made "dry" (which does not necessarily mean in powder)—namely, cascara sagrada, cinchona (to contain 10 per cent. of alkaloid of which one-fifth is quinine), colocynth, calumba, condurango, liquorice, quassia, rhatany, rhubarb, squill, and valerian, the last-named being made with ether. Of the other extracts the following must contain "about 10 per cent. of moisture" : Absinthium, belladonna (also 1.5 per cent. alkaloid), cannabis, colchicum, digitalis, and hyoscyamus (with 0.3 per cent. alkaloids, same as U.S.P.). Extract of ergot contains about 20 per cent. of moisture, gentian and triticum repens (both prepared with water) 25 per cent. Extract of nux vomica contains 16 per cent. of alkaloids, whereas the U.S.P. provides for only 5 per cent. of strychnine—surely a serious discrepancy.

In the preface the editors say that they have adopted a certain number of fluid extracts "with the view of permitting the extemporaneous preparation of certain medicaments." With the exception of cinchona (which must contain 5 per cent. of alkaloids), all of these are standardised on the percentage of dry residue, the figures being as follow : Carduus, 17; cascara, 25; centaury, 20; kola, 12; calumba, 13; condurango, 12; hamamelis, 20; hydrastis, 20; juglans, 20; liquorice, 25; papaver rhœados, 30; polygala, 25; rhatany, 30; rhubarb, 30; rose, 22; sarsa, 15; secale cornut., 15; senna, 20. In no case does the U.S.P. standardise on the extractive matter, but in view of the tendency in unofficial quarters in this country to adopt this basis, the Irish Local Government Board, for example, most readers will agree that for drugs that are non-poisonous and non-alkaloidal the Belgian step is the correct one to take. Some of the figures are distinctly higher than published statistics would appear to warrant, but this is to be explained by the low strength of alcohol employed; fluid extract of calumba, for example, being made with spirit of 30°. If made with 50° or 60° spirit, the extractive would in all probability fall to half the figure given above.

It has already been pointed out that tinctures of belladonna and hyoscyamus are not standardised. With these notable and inexplicable exceptions, and tincture of tolu, all the tinctures are standardised either on the alkaloid or the extractive. Of the former are aconite (0.05 per cent.), cinchona (1 per cent.), ipecacuanha (0.2 per cent.), jalap (2 per cent. resin), nux vomica (0.25 per cent. alkaloid—U.S.P. is 0.1 per cent. strychnine), opium and tinct. opii crocata (1 per cent. morphine), and paregoric (0.05 per cent.). All the others are standardised on the dry residue. The strength of spirit is 60°, 70°, or 80°, and the proportion of drug is 1 to 5 of menstruum, save in the case of potent drugs, where it is 1 to 10. The percentages of dry residue are to be not less than as follow : Absinthium, 2.5; aloes, 18; arnica, 1.5; asafetida, 8; aurantium, 5.5; benzoin, 18; cantharides, 1.5; capsicum, 1.25; catechu, 10; cinnamon, 2; kola, 2; colchicum, 1; colocynth, 2; calumba, 2; condurango, 2; digitalis, 2.5; eucalyptus, 4; gentian, 6; lobelia, 1.25; myrrh, 5; polygala, 5; quassia, 0.3; rhatany, 6; rhubarb, 6; squill, 10; strophanthus, 1; valerian, 3; valerian (ethereal), 1; zingiber., 1.

Generally speaking, these figures approximate with a fair degree of closeness to those recognised in this country, regard being had to the difference in the alcoholic strength of the menstruum employed. There is at least a real attempt made to secure uniformity, and on this account the Belgian authorities are to be warmly congratulated. It will be observed that several alkaloidal tinctures and fluid extracts are standardised on the extractive, which might well have been more scientifically treated—namely, hydrastis, kola, and colchicum. It is important to observe, however, that the principle of physiological standardisation has been admitted in the rabbit test for adrenalin, and it is only one step further in the same direction to estimate the activity of digitalis, strophanthus, and squill by their lethal effect on frogs. A comparison of the various standards with the extractives published from time to time by the present writer proves the very sound character of the work done in connection with the Pharmacopœia.

Among the novelties introduced—novelties in so far as official pharmacy is concerned—are the various medicated

cottons and gauzes, for the preparation and testing of which full particulars are given. These include boric (containing 10 per cent. of boric acid), carbolic (5 per cent.), salicylic (5 per cent.), perchloride (0.5 per cent.), and iodoform (10 per cent.). A 50-per-cent. cod-liver oil emulsion, made with Irish moss and tragacanth, and flavoured and preserved with anethol, acetic ether, and benzoic aldehyde, is recognised, and fairly full tests are given to determine the purity of cod-liver oil. Another preparation new to the British pharmacist is syrup of cinchona with potassium iodide and cod-liver oil. The oil is first mixed with powdered acacia and tragacanth and then emulsified with honey, syrup, and fluid extract of cinchona.

Certain essential oils are represented by their principal constituents free from terpenes—as, for example, anethol (the oxygenated solid portion of essential oil of anise), eugenol, etc. A new official product is cresolum saponatum, which is prepared by heating on the water-bath equal weights of soft soap and crude cresol till a homogeneous liquid has been obtained. This preparation will probably be intended to replace proprietaries of the lysol class. A test is supplied for determining the amount of tar acid in cresol, but no indication is given as to what the standard ought to be.

"Oleum officinale" is a useful concession to trade requirements. This is defined as a medicinal oil which ought to be almost colourless, odourless, and tasteless, and quite free from rancidity. Kept for twenty-four hours at 10° C. it should not solidify or deposit globules of solid glycerides. For this there may be employed almond, olive, sesame, nut, cottonseed, maize oil, etc., and, in fact, any non-drying oil that can be used for food.

Pepsin is tested on boiled egg-albumin, the requirement being that it should dissolve 100 times its weight within an hour at a temperature of 40°, which would bring it probably to a strength somewhat lower than that of the B.P. The acid solution directed to be used contains 2.5 per cent. of hydrochloric acid, sp. gr. 1.186, whereas the B.P. requires 2 per cent. of real HCl. Ought not the Belgian test to be 2.5 per cent. of real HCl. also? I suspect there is some mistake here. For making pepsin-wine detannated wine is used. This is prepared by the gelatin-process, which, it may be noted, was first published in The Chemist and Druggist by the present writer.

A very useful page on "Sterilisation" is given in the body of the work. The use of germicides, such as phenol, cresol, alcohol, etc., is not recommended for sterilising-purposes, though the presence of these substances in a liquid previously sterilised by other means facilitates the handling of them. The sterilisation of glass and porcelain utensils and containers is carried out by means of a dry heat, at least 160° C.; powders, such as boric acid, oxide of zinc, talc, etc., at a dry heat of 120°; and gauze and cotton in an autoclave at the same temperature. Aqueous solutions not affected by heat—artificial serum, for example (or physiological sodium chloride solution, made by dissolving 0.8 per cent. of sodium chloride in water—0.9 is commonly used in this country). are sterilised in the autoclave at 120°, or by boiling, or by the water-bath.

The Pharmacopœia contains some useful appendices—lists of apparatus and drugs which must be kept in every pharmacy, of drugs that should be protected from heat and light, and of potent remedies that must be stored with special care. In the preface the editors say that they regard it as a fixed principle that the pharmacist should prepare all the official galenicals. The book is therefore intended to be a pharmacist's Pharmacopœia, and on the whole we think it fairly justifies such a description.

The Imports of Drugs into Madagascar have declined continuously in value since the French occupation, as the following figures show: 1901, 5,772*l.*; 1902, 4,239*l.*; 1903, 3,458*l.*; 1904, 2,965*l.*; and 1905, 2,620*l.* Of chemical products 11,445*l.* worth was imported, compared with 9,012*l.* in the previous year.

A Young Chemist's Gilded Pill.—A young man who hitherto has been an assistant in a chemist's shop is steaming across the Indian Ocean to claim 20,000*l.* in France. His name is Pougnet, and he lives at Port Louis, in the island of Mauritius. He bought a ticket in the second Press lottery, which was recently drawn in Paris, and the ticket was drawn for 20,000*l.* But 20,000*l.* hardly spell pills and potions, do they?

German Pharmaceutical Specialities.

It is a trite saying that our German neighbours have been quicker to adapt the results of their chemical investigations or the results of the chemical and pharmaceutical researches of other nations to actual business. They have been keener in making money out of their theories—reducing theories to cash. Good evidence of this apparent truism has just come to hand in the "Vorschriften zur Selbstbereitung Pharmazeutischer Spezialitäten," issued by the Deutscher Apotheker Verein. The collection is a more shoppy compilation than the ex-B.P.C. Formulary, and the Verein "goes one better" than the B.P.C., in so far as the saleable specialities for which the formulas are given are prepared on a large scale by a co-operative section of the Society. These proprietaries are not only compounded by the syndicate, but they are packed in cartons with labels specially designed, and are issued to members with name and address printed on. Prices have been fixed and are specified in the list, and that the style of "get-up" is by no means commonplace may be seen from the accompanying illustration of a representative carton used for syrup of sulphocreosote of potassium. The syrup is made according to the formula given in the list by dissolving 15 parts of potassium sulphocreosotate in 35 parts of water, mixing with 45 parts of syrup, and adding 5 parts of tincture of gentian.

We have before us a large selection of labels, all beautifully produced in colours, the work of Mr. Fr. Melsbach,

of Sobernheim. These have been prepared specially for the preparations mentioned in the formula-book, and we repro-

duce several in black-and-white to give an idea of the style. They are printed on tinted paper with blanks for the name

and address of the retailer, small slip-labels for placing on being supplied. We show these on two of the labels, and append the formulæ, with approximate equivalents in

English weights and measures. "Part" in the formulæ means "gram." It will, of course, be noted that the directions are translations of the German original, and refer to the "parts" which are by weight.

THYMIAN-KEUCHHUSTEN-SAFT.

is a remedy for whooping-cough, for which the following formula is given :

Fluid extract of thyme ...	150 parts	(℥x.)
Sodium bromide	15 ,,	(℥j.)
Glycerin	135 ,,	(℥j.)
Syrup	700 ,,	(℥ivss.)

IOD-EISEN-LEBERTRAN,

oleum jecoris aselli ferro-iodatum, is made as follows :

Iodine	1.64 (gr. xli.)
Oil of almonds	50 (℥iij.)
Iron	1 (gr. xxiv.)
Cod-liver oil to ...	... 1,000 (℥lx.)

Rub up the iodine to fine powder in a mortar with the almond oil. When dissolved, add the iron in powder and cod-liver oil to make the total weigh 1,000. After being well mixed, allow to settle and filter.

AROMATIC TINCTURE OF IRON

is prepared by mixing 63 parts (℥iij.) of solution of dialysed iron with 300 parts (℥xj. ℥ss.) of syrup ; add 3½ parts (♏x.) of soda solution (s.g. 1.4) and 33½ parts (℥ij. ♏xv.) of water. When the mixture has cleared add a mixture of

Water	429 parts	(℥iv.)
Alcohol	165 ,,	(℥j. ℥v.)
Tincture of orange-peel ...	3 ,,	(♏xvj.)
Aromatic essence	1½ ,,	(♏viij.)
Tincture of vanilla ...	1½ ,,	(♏viij.)

and to the whole add 5 drops of acetic ether [with the English equivalents 20 drops].

FRANGULA-ELIXIER.

Fluid extract of buckthorn	300 parts	(℥x.)
Alcohol	100 ,,	(℥iij. ℥vj.)

in which are dissolved—

Vanillin	1/10 part	(gr. iss.)
Tincture of orange-peel ...	3 parts	(℥j.)
Aromatic essence	1 ,,	(♏xx.)
Syrup	500 ,,	(℥xij.)
Water	96 ,,	(℥iij.)

After cooling, filter, and to the mixed liquids add 3 drops of acetic ether.

THYMOL MOUTH-WASH ESSENCE

is simplicity itself. All that is required is to dissolve 1 part of thymol in 99 parts of Botot's dentifrice. The formula for the latter is given thus :

Orris-root (cut to medium fineness)	50 parts	(℥iss.)
Cinnamon (in coarse powder)	25 ,,	(℥vj.)
Galangal (in medium cut picces)	25 ,,	(℥vj.)
Cloves (coarsely bruised) ...	25 ,,	(℥vj.)
Aniseed (coarsely bruised) ...	25 ,,	(℥vj.)
Cochineal (finely ground) ...	5 ,,	(gr. 72)
Oil of peppermint	10 ,,	(℥ij. gr. xij.)
Balsam of Peru	5 ,,	(gr. 72)
Coumarin	1/10 part	(gr. iss.)
Oil of orange-flowers	¾ ,,	(♏xij.)
Otto of rose	½ ,,	(♏vij.)
Alcohol, dilute	1,000 parts	(℥xxxv.)

Let the mixture stand for three days, with frequent shaking. The pressed liquid should be filtered if there is any deposit.

ITALIAN ARGOL AND WINE-LEES.—The actual production of argols in the province of Lecce is not ascertainable, but 1,525 tons were exported from the ports of the province during 1905—viz., 176 tons to Austria-Hungary, 212 tons to Belgium, 232 tons to Russia, 816 tons to France, 14 tons to the Netherlands, and 75 tons to the United States. The large quantity of 4,770 tons of wine-lees was exported to Austria-Hungary.

ASHANTI KOLA.—In his annual report the Chief Commissioner of Ashanti states that the number of kola-trees in bearing increases automatically every year, and the young trees are watched over and well cared for by their owners, but systematic cultivation is desirable. A botanical station is about to be established in Kumasi, when a strong endeavour will be made to augment the cultivation and increase the production of the various agricultural commodities of Ashanti.

Some Processes for Toning Bromide Prints.

THERE are perhaps no photographic operations easier to work than those used for turning the cold black tone of bromide prints into the warmer colours of the carbon-worker. On the other hand, the methods may be a source of annoyance rather than pleasure if simple precautions against failure are not taken. The subject of toning bromides on this account is one upon which the amateur makes endless inquiries from his chemist, and with a view to helping the photographic dealer we have brought together these few notes on the various processes.

First of all, it must be understood that all toning-operations on bromide prints or lantern-slides are carried out on the finished print, instead of, as with P.O.P., before fixing, and therefore, generally speaking, one of the clean working developers, such as metol-quinol or rodinal, is preferable to ferrous oxalate. Metol-quinol is as a rule the best developer for bromide prints intended for toning, but either pyro-soda or pyro-ammonia gives a good image on lantern-plates. In each case the developer must be made only half as strong as for negatives, and it is an advantage to use an acid fixing-bath. The image which gives the most perfect tones is one of a good black colour, with clear shadows and half-tones, and pure whites; a grey print rarely gives a good tone by any toning-process.

The Hypo-alum Process.

This process, often called the "boiling" process, produces a rich sepia tone. The bath is made as follows: Dissolve hyposulphite of soda 5 oz. in hot water 35 oz., and when dissolved add alum 1 oz. When the alum is added a milky precipitate is formed, which must not be filtered off. The solution should be kept at least twenty-four hours before use, and ripened by warming up to about 140° F. (59° C.), and allowing to cool. This operation should be carried out several times in order to ripen the bath. The older the bath the better it works, and prints toned with a six-weeks-old bath give a most exquisite sepia tone. The prints to be toned are immersed first of all in the cold solution for ten or fifteen minutes, and then heat is applied and the temperature raised gradually to 140° F., and the solution kept at this temperature for another ten or fifteen minutes, or until the desired tone is obtained. When toned, the prints are immersed in a solution of alum (½ oz. to a pint), which should be just warm; and after soaking for five minutes the prints are finally washed for twenty minutes in running water.

Many workers add sugar to this toning-bath, and find it an advantage. Its exact office is not quite clear, however, and the bath works very well without it. The most common complaint made against this bath is that it bleaches the print. The remedy is to allow the bath to ripen by keeping it, and warming to 140° F. as mentioned previously. A bath properly ripened has very little reducing action on the image. Another common trouble is blistering, which is usually due to the bath being warmed up too rapidly or the temperature being too high. Heat should be applied gently, and there is no need to go above the temperature mentioned.

The Ferguson (Copper-ferrocyanide) Process.

This process produces tones varying from a warm black to a brick-red, according to the length of time the print is left in the bath. Two solutions are necessary:

(1)

Cuprous sulphate	... 30 grains
Potassium citrate (neutral)	... 120 grains
Distilled water	... 10 oz.

(2)

Potassium ferricyanide ...	... 25 grains
Potassium citrate (neutral)	... 120 grains
Distilled water	... 10 oz.

For use take equal parts of these two solutions, and immerse the print, which must previously have been well soaked in clean water. The best tones are usually those which are obtained at the beginning and the end of the process; the intermediate colours are usually not so pleasing on bromide-papers, although they look well on transparencies. The tones given are considered more permanent than those produced by other methods, but the greatest care must be taken to wash out all traces of hypo before toning, or spots and stains will result. When the desired tone is obtained the prints are removed from the toning-bath and washed for half an hour in running water. Copper toning is not a suitable process for glossy bromide-papers.

Sulphide Toning.

This process is of recent origin, but is becoming popular. The tones produced are of a rich sepia colour, and with a print of suitable density most artistic. The print which gives the best results with this process is one which is fairly dense, with good blacks and clean whites—such a print as would be produced by metol-quinol containing a fair percentage of bromide. There has been a good deal of controversy respecting the permanence of sulphide-toned bromide prints, but providing the prints are thoroughly washed to remove the chemicals used in their production and toning, there is no reason why the tones produced should not be as permanent as those produced by any other, excepting perhaps the copper process. The image, when toned, is composed of sulphides of silver, which salts are fairly stable under ordinary atmospheric conditions. Moreover, sulphuretted hydrogen, the great enemy of photographic silver prints generally, has little or no action on sulphide-toned bromides. The toning-process consists of two operations—bleaching and toning. The bleaching consists in converting the image into bromide of silver by means of the following solution:

Potassium ferricyanide ...	... 300 grains
Ammonium bromide ...	... 300 grains
Water	... 20 oz.

Immerse the prints, which may be either wet or dry, in this solution, and, with gentle rocking, allow them to remain there until the black image has disappeared and the prints look somewhat like undeveloped platinum-prints—a yellowish image on a whitish-yellow ground. After washing in running water for a few minutes, the bleached prints are immersed in the toning-bath, which is made by diluting 1 dr. of a saturated aqueous solution of sodium sulphide to 5 oz. with water. The solution of sulphide should be made with hot water and allowed to stand a day or two before use. This will bring about the precipitation of heavy metallic impurities, and is the alternative to boiling the solution, which is a rather unpleasant performance, except in a fume-chamber. The prints remain in the toning-bath until they attain full density, and present an even sepia tone, when they are thoroughly washed and then dried in the usual manner.

A complaint made against this process of toning is that the prints blister in the sulphide-bath. This is generally due to the solution being too strong: some bromide-papers will not stand such a strong solution of sulphide as others. Another cause of blistering is insufficient washing between the bleaching and toning baths.

There is one other point which should be mentioned, and that is the use of an encaustic paste. The paste is smeared, not too lavishly, on the face of the toned print, and rubbed with a soft rag until a polish is secured. The result is a decided improvement in the appearance of the print. Lustre is added to the shadows, and detail brought out in a way scarcely creditable to those photographers who have never used it. With toned bromide-prints it has the further advantage that it protects the film from atmospheric action—a great consideration with photographs which, from one cause and another, are often likely to be of a rather fugitive character.

The Uranium Process

is really a modified form of intensification, and, having regard to this fact, great care must be taken not to get the print too dense. It is also important that the print should not have been developed with the ferrous-oxalate developer, as the slightest trace of iron causes the appearance of greenish spots. Metol-quinol is the best developer for prints to be toned with uranium, especially if the toning is to be carried no further than the sepias. Amidol is a good developer for toning to the full red tones produced at the end of the process, as this developer gives a soft print which does not become too much intensified during the prolonged immersion necessary.

The toning-bath is made as follows :

(1)

Uranium nitrate	45 grains
Distilled water	10 oz.

(2)

Potassium ferricyanide	45 grains
Glacial acetic acid	2 dr.
Distilled water	10 oz.

It is better to make the bath in two solutions, as the two solutions keep indefinitely as long as they are not mixed, and, moreover, the bath when freshly mixed gives purer tones. For use take equal parts of No. 1 and No. 2, and if the bath is found to work too rapidly add an equal volume of water. The prints should be previously well soaked in water so as to ensure evenness of action. Toning commences as soon as the prints are immersed, and, starting with a warm black, goes on through various shades of brown till a full red colour is reached. The prints should be taken out of the bath when a little colder in colour than is desired, and immediately placed in a bath containing about 2 per cent. of glacial acetic acid. After immersion in this bath for three or four minutes the prints must be washed in several changes of water. The water must not be running, as if the prints are put under the tap, some of the colour will be washed away and patchy results given. Washing should only be carried so far as may be necessary to clean up any stains on the whites of the prints.

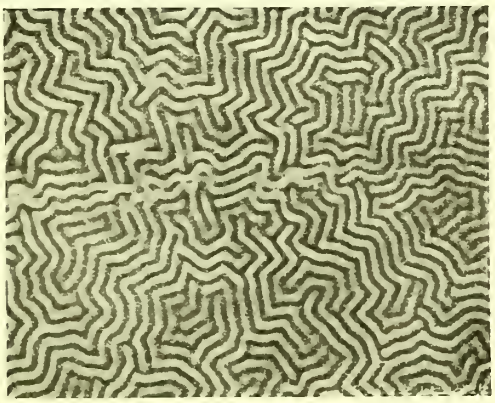
A frequent cause of complaint with this bath is that it produces permanent yellow stains. These stains are due to insufficiency of acid in the solution. The trouble may be got over by dabbing on a weak solution of ammonium sulphocyanide with a tuft of cotton-wool. One great advantage of uranium toning is that if the tone is at first unsatisfactory it may be completely removed by soaking the print in a weak solution of ammonia or sodium carbonate, and then, after thorough washing in running water, the toning may be recommenced and carried as far as necessary.

Photographic Notes.

By Pharmaceutical Camerist.

How the Gelatin Film Crinkles.

Mr. James Dunning, Ventnor, sends us an enlargement of a gelatin dry-plate which exhibits such curious markings



that we reproduce a part of the print. The plate was a spoilt one, and had warm water poured on it with a view to striping off the film. The gelatin surface immediately shrivelled up into the form shown in the illustration. The result suggests a method of obtaining mechanical designs which might possibly be utilised commercially.

A New Process of Developing P.O.P.

In a paper contributed to the current issue of the "Photographic Monthly" by Mr. Stanley C. Johnson, B.A., on "Art Tones on P.O.P. by Development," the writer gives a process of developing partially printed P.O.P. which I believe has not been published before. The paper is placed in the frame in the usual manner, except that it must not be subjected to any more intense light than that of a small gas-flame, and exposed by burning a yard of magnesium ribbon at a distance of 6 inches from the negative. The paper is then immersed in a solution of potassium iodide (6 grains to the ounce) for five minutes, after which it is developed with the following :

Hydrokinone	1½ grain
Sodium sulphite	6 grains
Caustic soda	2½ grains
Water	1 oz.

This developer gives tones varying from red-brown to greenish-grey according to the strength of the developer. With a strong, rapidly working developer the colour tends toward green; with a weak, slowly working developer toward brown. Development with

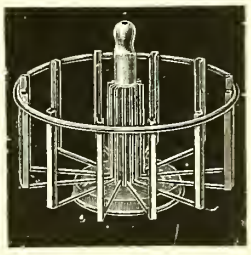
Pyrogallol	15 grains
Glacial acetic acid	15 minims
Alcohol, 90-per-cent.	160 minims
Water	9 oz.

produces chestnut-brown prints, and a pleasing violet tone may be obtained by developing with

Pyrocatechin	2 grains
Sodium acetate	10 grains
Water	20 oz.

followed, without washing, by a combined toning and fixing bath.

The Undercurrent Washer.



There seems no end to the number of negative-washers, one of the latest being Tylar's Undercurrent Washer. The illustration gives a good idea of the apparatus, which for use is put into a large vessel of water and connected by means of the central nipple with a water-supply. The water descends through the centre pivot and at the bottom meets a slightly conical zinc tray, which has the effect of shooting the water upwards. When the plates are sufficiently washed the washer is lifted out and the plates left to dry, the wide space between each negative facilitating the drying process.

The Tanning of Gelatin.

Those well-known research workers Messrs. Lumière and Seywatz have published an account of their work on the "tanning" of gelatin. They find that a gelatino-bromide plate, treated with a simple solution of pyrogallic acid, undergoes some change as regards the solubility of the gelatin, and that this change is much more marked when an alkaline "accelerator" is present. Sodium sulphite restrains the tanning action of the developer, and from this it appears that the oxidation of the developer is an important factor in the tanning-process. This conclusion seems to be further supported by the fact that other developers, such as hydroquinone, paramidophenol, and pyrocatechin, have considerable action in rendering gelatin films insoluble in the presence of alkalies, which action, in the ordinary course of development, is restrained by the sulphite contained in the solutions.

Acid-proof Varnish.

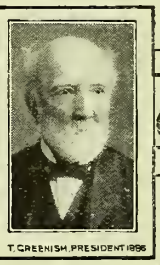
The following formula for a varnish which will withstand the action of acids is due to Mr. J. McIntosh, the Secretary of the Royal Photographic Society, and should be useful to chemists, particularly when the rather vague directions are definitely settled by experiment :

> Dissolve bitumen in benzole to the consistency of cream; this will dry quickly and set hard. To this a very small quantity of indiarubber solution should be added, and a piece of tin coated with the paint. When this is set, which should be in a quarter of an hour or so, the tin may be slightly bent; if the paint does not crack it contains sufficient indiarubber; if it does crack, then a little more may be added. It is very important that all grease and rust should be removed from the metal before the paint is applied. For this purpose there is nothing better than a solution of caustic soda. The first coat is allowed about twenty-four hours to dry thoroughly, and a second coat is then applied.

The paint will not resist the action of caustic alkalies.

BRITISH PHARMACEUTICAL CONFERENCE

FORTY THIRD ANNUAL MEETING



BIRMINGHAM JULY 23 TO 26 1906.

THE Grand Hotel, Birmingham, which this year is the headquarters of the Conference, was teeming with pharmacists and their ladies by seven o'clock on Monday evening, July 23. The hotel is central, and overlooks the Cathedral, surrounded by a green oasis in the midst of an apparently interminable desert of buildings forming the centre of the city of Birmingham. There were many diners at the hotel, and afterwards there was a general move along Colmore Row to the reception. Never, probably, in the history of the Conference has there been a more imposing reception than the one given at Birmingham on Monday evening, July 23. Promptly at 8 P.M. the Lord Mayor of Birmingham and the Lady Mayoress (Councillor and Mrs. A. J. Reynolds) were waiting in the fine galleries of the Council-house to receive their guests. There was a large crowd of interested natives gathered round the entrance to the Council-house, and there seemed to be a larger number of guests than usual. That this was so was shown by the fact learned subsequently that over a thousand invitations had been issued. The Mayor had taken the opportunity to invite the Councillors, members of the Board of Guardians, the principal medical men, and other prominent townsmen and their ladies, and over five hundred persons were present altogether. Among the local dignitaries were the Lord Mayor-elect (Mr. H. J. Sayer, J.P.), Sir James and Lady Sawyer, Dr. Jordan Lloyd, Dr. C. A. Leedham Green, Dr. Thomas Savage, Dr. Felix Vinrace, Dr. Sidney Haines, Mr. L. P. Gamgee, Dr. D. C. Lloyd Owen, Dr. F. Hollinshead, Alderman Clayton, Mr. and Mrs. Thomas Barclay, Mr. Thomas Barclay, jun., Mr. and Mrs. Alfred Southall, Alderman Bird (Coventry), Mr. and Mrs. A. W. Southall, Mr. Wilfred F. Southall, Mr. G. Southall, Miss Barclay, Mr. W. Marshall Freeman, Mr. T. Wakefield, Mr. J. F. Liverseege, and a large contingent of local pharmacists, their wives, and lady friends. The visiting pharmacists included Mr. W. A. H. Naylor (President of the Conference), Dr. J. Walsh (President of the Pharmaceutical Society of Ireland), Mr. Thomas Tyrer, Mr. J. C. Umney, Mr. N. C. Layman, Mr. Alan Francis, Mr. G. C. Druce, Mr. J. F. Mather (Godalming), Mr. W. Idris, Mr. T. Edward Lescher, Mr. J. Grier, Mr. F. Ransom, Mr. E. T. Brewis, Alderman W. Gowen Cross (Shrewsbury), Mr. A. Hagon and Miss Hagon (Cardiff), Mr. and Mrs. A. E. Hobbs (Tunbridge Wells), H. Wippell Gadd (Exeter), Mr. H. E. Boorne (Bristol), Mr. and Mrs. J. W. White (Bristol). The representatives from beyond the Tweed included Mr. J. P. Gilmour (Glasgow), Mr. J. Rutherford Hill (Edinburgh), and Mr. John Lothian (Glasgow). The Green Isle was particularly strong. Besides Dr. Walsh, there were Mr. W. F. Wells, Mr. G. D. Beggs, Mr. John Smith, Mr. J. Nichols (Belfast), and Mr. Watson and Miss Watson (Dublin). The company either sat at ease in the handsome reception-galleries and listened to the excellent music discoursed by Priestley's band, or they strolled through the Art-galleries and Museum, ultimately landing in the refreshment-room. Some of the toilettes of the ladies who graced the assembly were charming and picturesque, but altogether too complicated for the male person to attempt to treat technically. The reception lasted until about half-past ten, when the majority descended the steps and made for their various hotels. A large party is staying at the Grand Hotel, and very fine accommodation is provided. The weather was rather gloomy-looking during the afternoon, and the heat which presages a thunderstorm was prevalent. But beyond a sharp shower in the afternoon the weather was all that could be desired. Thus the forty-third meeting of the Conference commenced auspiciously and well.

PRINCIPAL OFFICERS, 1905-1906.

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W. A. H. Naylor, F.I.C., F.C.S.

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Assistant Secretaries:
A. William Southall
James A. Radford

Ladies' Committee.

Mrs. Cuxson (President)
Mrs. C. Thompson (Vice-President)
Mrs. A. W. Southall (Treasurer)
Mrs. Wakefield (Secretary)

First Session—Tuesday Morning.

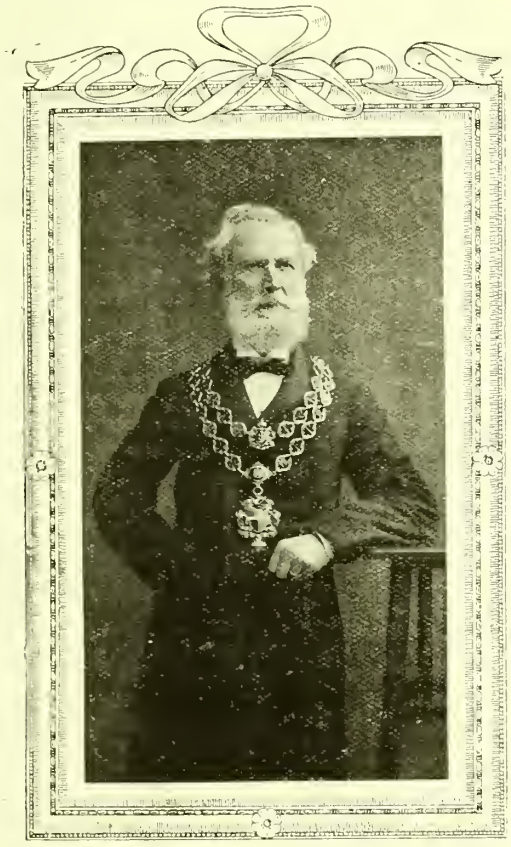
The weather on Tuesday morning was bright and less oppressive. As the proceedings were timed to begin rather earlier than usual everybody was up betimes. The breakfast-tables at the Grand Hotel were mainly peopled by pharmacists, and the conversation was distinctly pharmaceutical. The University where the Conference is held is five minutes' walk from the hotel. The lecture-theatre of the Medical School is specially adapted for the purpose, as the acoustic properties are good and the rising benches give the members a good opportunity of catching the President's eye. The flowers and palms gave a pretty appearance to the room.

At 9.55 the room was well occupied, many ladies being in the audience. The President rapped for order and called on the Lord Mayor (Councillor A. J. Reynolds) to address the Conference.

Official Welcome.

The Lord Mayor, officially welcoming the Conference, said : Mr. President, ladies and gentlemen,—On behalf of the citizens of Birmingham I beg to offer you a cordial welcome on the occasion of your visit to the city, and to express the pleasure that we feel that after a lapse of twenty years you have made it for a short time the place of your annual Conference. I am glad to welcome your President, Mr. Naylor, my friend Mr. Thomas Barclay, the Chairman of the Local Committee, also Professor Greenish, one of your Vice-Presidents, and Mr. Charles Thompson, your Local Secretary. It is worthy of note that Mr. Barclay and Mr. Thompson took a prominent part in the Conference that was held here in 1886. (Hear, hear.) Your organisation is an important and influential one. It has high aims and objects, which I understand to be the encouragement of pharmaceutical research, the promotion of friendly intercourse and communion among pharmacists, and to maintain uncompromisingly the principle of purity in medicine. These objects, fully carried out, mark the path of true progress and ensure the confidence and co-operation of the medical profession. (Hear, hear.) I am sure we laymen heartily approve of these objects, for although we desire as little medicine as possible—(laughter)—we certainly wish to have that little of the best possible quality. (Hear, hear.) Your visit here includes both business and pleasure, and the latter will be enhanced by the presence of a number of ladies, for whom special arrangements are naturally made. [Here his Lordship mentioned some of the items on the social programme.] Continuing, he said : Last, but not least, there is Mr. Barclay's reception at the Botanical Gardens, where the Lady Mayoress and myself look forward to the pleasure of meeting you. In repeating my welcome I hope that the Conference will be a very successful one, that your visit will be enjoyable, and that you will carry away with you pleasant recollections of Birmingham. (Applause.)

The President, in acknowledging the welcome, said : My Lord Mayor, ladies and gentlemen,—In the first place, I desire to ask permission to express a sentiment of gratitude on behalf of the members of this Conference and other friends for the reception given to us last evening in the Council House by his Lordship and the Lady Mayoress. (Applause.) I am sure we were charmed as we strolled through these spacious chambers and inspected at leisure the beautiful works of art they contained. We appreciate very highly the kindness of his Lordship in coming among us this morning and opening our proceedings with words of good cheer and of welcome that have excited our admiration and that have evidenced his sympathy with us in our work, the



The Lord Mayor and Lady Mayoress of Birmingham.
(Councillor and Mrs. A. J. Reynolds.)

interests of which we are met here to promote. We are glad to have an opportunity of visiting, or revisiting as the case may be, this city—a city distinguished in the past and famous in the present for men of light and leading, men who have impressed themselves upon the life of this, shall I say, democratic and aggressive people. Birmingham is associated in our minds with great names, with great preachers, great philanthropists, great politicians —(applause)—great orators—ah! you do not respond—(laughter)—men great in counsel, and men learned in the arts and sciences, including medicine. (Hear, hear.) And the glory of this noble city I take to be is that she is still producing these great men, and to-day we say to your Lordship, "Sir, long may the bright succession continue." (Hear, hear.) In the name of the assembled members of this Conference I tender to your Lordship our sincere thanks for your most cordial greetings. (Applause.)

Mr. Druce, in seconding the motion, said: It gives me pleasure to second this vote of thanks to the Lord Mayor for coming here to give us this hearty welcome, and for his kindness in receiving us in such a magnificent manner last night in those beautiful rooms which I remember twenty years ago I went over with the borough treasurer, Mr. Hughes, a great friend of mine, and to know whom was a liberal education. We are really very much indebted in every city we go to for the interest and kindness which are always shown us by the municipal authority. I think it is a great thing that we should have these official receptions. It shows that after all we are in touch with the things that be, although we are rather an antiquated and, to some extent, a played-out business. (Laughter.) Yet even cities that are so progressive as Birmingham, that are so much in the forefront, sometimes in their lives feel the necessity of having something pure in the way of medicine. I can assure his Lordship that the more he takes the more he will want—(laughter)—and the more he takes and wants the better we shall be pleased. (Cheers.) Instead of dying young at 90, if people would only take enough physic they would live to something like 150, but they must be quite sure to have the right physic, made up by the right people, in the right places, and pay the right price. (Laughter and applause.)

Mr. Thomas Barclay was then called upon. It is usual, he said, for the Chairman of the Local Committee to say a few words at this stage in the way of welcome, and I will combine with them the support of this resolution. After recalling the foundation of the Chemists' Trade Association and some old friends, such as Mr. Joseph Lucas and Mr. Thomas Greenish, he compared the Birmingham Directory of 1886, the year the Conference last met here, with that of 1906. The comparison, he said, is difficult, as the population of the city and neighbourhood has increased so largely in the period. The increase is from 535,000 to 780,000, but what do we find so far as chemists and druggists are concerned? There were, according to Kelly's Directory, in 1886 188 chemists and druggists in business, and of these 24 were pharmaceutical chemists, so that if they had kept pace with the population, there would have been 282 chemists and 36 pharmaceutical chemists at the present day. But what do we find? Instead of 282 there are only 148, and instead of 36 pharmaceutical chemists, there are only 16, or putting the matter in another way, there were in 1886 188 chemists in business, of whom 24 were pharmaceutical chemists; and in 1906 148, and 16 pharmaceutical chemists, and that without allowing anything for the increase of population. There is, however, another important factor. There were in 1886 a few chemists who had a branch shop. I could not find any who had more than one; but in 1906, although there are also a few branch shops, the circumstances are very different, for under the direction of two limited companies, with their headquarters in distant towns, one had thirten branches, and the other eight, whilst in another case the proprietor had six branches. Is this altered condition to the benefit of the public? There can be but one answer to those who have given that consideration to the subject which it deserves. In this city those of us whose memory will carry us back a few years can recall the names of men like Arblaster, Churchill, Humphreys, Hipkins, Samuel Adkins, W. S. Atkins, Stirling Grieves, Robert Walker, Charles Flewitt, and Joseph Lucas, all of whom (with the exception of our dear old friend Arblaster, who, in feeble health, is still living, but not in business) are gone, and their places are wiped out of existence. Now each of these men had a personality, and was an asset to the city. Mr. Barclay dwelt upon the work and influence of such men and asked: What have we in their place? We have branch businesses carried on by companies, each, it is only fair to say, being under the management of a qualified assistant, but they are all directed from headquarters. There is no pride of proprietorship or responsibility. The pharmaceutical preparations are made at a common centre. Then as to the question of economy, so far as the public is concerned there is no doubt but that the poor apothecary, multiplied by 188, got less out of the public than the 148 now. In conclusion Mr. Barclay urged his brethren to do everything possible to foster and develop pharmacy as a science.

The resolution was carried with acclamation, and the Lord Mayor briefly acknowledged it.

A Medical Welcome.

Sir James Sawyer welcomed the Conference on behalf of the medical profession. He said: "Mr. Chairman of the Conference, when I put off a professional engagement this morning to come here I trusted that I might only have to welcome you by my presence in the name of the profession to which I belong, because I knew that the Lord Mayor would say all that ought to be said on behalf of the inhabitants of Birmingham with regard to the important gathering which is now taking place. But since I have come into this room I have been reminded that I am, perhaps, not after all the junior member of the medical profession in this town, and that I can, I am sure, with the support of all my colleagues in the calling, say that we should not like your Conference to open without your receiving from it, as well as from the municipal authorities of this great city, a very hearty welcome indeed on your coming into our midst. Our sincere sympathies shall follow you through all your deliberations in the hope that, though perhaps in the silence of our consulting-rooms, out of this Conference there may come from you something that you may give later to us, which may give us a directer touch with the arrest of disease, the prevention of suffering, and the solace of all those pains and aches of humanity which, after all, you and me are bound together to assuage. (Applause.) All that you are doing, and all we are doing, the older each of us may grow brings us more seriously face to face with the great question of human suffering. Perhaps, when we are dealing with a particular patient, and with a particular disease, we are only dealing with a very light link indeed in the great and complicated sea of social—aye, and political—difficulties which result more or less when they are badly solved in the production of disease and human suffering. Perhaps the world will have to go on for a very long time in this way. The medical profession has well nigh perfected itself now in the diagnosis of disease. It has well nigh perfected itself in the scientific knowledge of the precise condition under which disease exists, but it has much to do—and it cannot do that without you—with regard to the cure of disease in particular cases. We have to prevent disease in every possible way in our power. We take a great pride that while we have to earn our bread by seeing patients, we spend our leisure, and our tired, and even our sleepless, nights, in trying to think how we may prevent the existence of the maladies for which we exist as a profession. We long for the prevention of disease, but such a consummation as that may be far off. In the meantime let us welcome you, and all pharmaceutical conferences of this kind. Let us recognise that it is the treatment of disease which is lagging behind, and if we wish to make that perfect, we can only do so with the earnest co-operation of pharmacists and those concerned in the preparation of medicines. (Applause.)

Mr. J. C. Umney thanked Sir James Sawyer for his welcome, and in the course of his remarks said: We try to represent as far as we can the scientific side of pharmacy. We are engaged in the preparation of medicines and in perfecting them as far as possible, and we are only too thankful to hear our work is appreciated to some extent by the medical profession. (Applause.)

Mr. F. Ransom seconded, and the resolution was carried.

It was now 10.30 A.M. and the Lord Mayor left.

The President then read his address in abstract, the time occupied being about thirty-five minutes.

Presidential Address.

By WILLIAM ARTHUR HARRISON NAYLOR, F.I.C., F.C.S., Pharmaceutical Chemist.

The subject of the Address is the valuation of drugs. The President discusses question and proposition, viz.:—

Question.

How far can the newer knowledge acquired as the result of the chemical or physiological investigation of drugs be usefully applied to their evaluation?

Proposition.

To indicate where there is a lack of common agreement in the isolation of principles, and to focus the attention of workers on the points needing fuller elucidation.

In illustration he discusses present-time knowledge of Aloes, Balsam of Tolu, Cantharides, Cascarilla, Euonymus, Gelsemium, Ginger, Hops, Lobelia, Male-fern, Myrrh, Senega, and Veratrine.

Suggestions are made in respect to the directions in which our knowledge can be augmented, and the address concludes with references to the work of the Conference.

To-day the British Pharmaceutical Conference opens its annual sessions for the third time in the industrial Metropolis of the Midlands, an event unprecedented in its history. Since its last visit, Birmingham has attained the dignity of a city and university rank, and has given full proof of her determination to share the larger outlook and the fuller life that characterise the newer seats of learning. It would be received by us with a feeling of gratification and a sense of indebtedness if among the wide range of subjects taught here pharmaceutics should find a place—perhaps a more prominent place than the subjects of our profession have at present—but I am pleased to know that there is in the organisation a nucleus at least which may grow into a pharmaceutical department before the Conference again visits Birmingham. Such a development would be a recognition by the Senate of the usefulness of the pharmacist to the community, and an evidence of its desire to encourage him to acquire the higher knowledge that will enable him the better to fulfil the duties that appertain to the scientific side of his calling. It may safely be prophesied that among the younger and rising generation of pharmacists there are those who will be eager to take advantage of the opportunity a university provides to prosecute their studies beyond the point needed to prepare for and to obtain their statutory qualification. The demands on the knowledge and skill of the pharmacist promise to become increasingly heavy and more minutely exacting, and the ability with which he meets them will determine his general success. He is rightly charged with the responsibility of dispensing physicians' prescriptions, and presenting in their most active and approved forms preparations of drugs for administration by the medical practitioner. His obligation is increased when he is required to isolate and supply the chief constituent of a drug, to keep *au courant* with recent literature on the chemistry of drugs, and to make investigations that shall add to the common stock in his branch of knowledge. Reflecting along these lines, it occurred to me that the Con-

Conference Headquarters, Grand Hotel, Birmingham.

ference chair provided a suitable opportunity for giving expression to certain thoughts that have simmered in my mind for a not inconsiderable time on the subject of the valuation of drugs. The question is a large one, and for the purposes of a presidential address may be considered insufferably dry; nevertheless, I ask your indulgence and sympathetic interest while I endeavour by reference to typical examples to discuss it in outline. The guiding points kept in view in pursuing this inquiry are: (1) How far can the newer knowledge acquired as the result of the chemical or physiological investigation of drugs be usefully applied to their evaluation? (2) To indicate where there is a lack of common agreement in the isolation of principles, and to focus the attention of workers on the points needing fuller elucidation.

Aloes.

Since the classic researches of Tilden, the various kinds of aloes have engaged the attention of many investigators, who have succeeded in elucidating obscure points connected with the chemistry of the drug. The following may be accepted as established facts: That barbaloin of commercial purity was first isolated by Smith & Co., and subsequently analysed by Stenhouse in 1851. That the aloins from Barbados and Curaçao aloes respectively are identical, having a common melting-point and composition—$C_{16}H_{16}O_7$ (Tschirch and Hoffbauer) or $C_{16}H_{18}O_7$ (Jowett and Potter). That these two varieties of aloes contain an identical isoaloin which is isomeric with barbaloin, the isomer being present to a greater extent in Curaçao than in Barbados. That the resin of both varieties is an ester of aloeresinotannol and cinnamic acid. That capaloin, a product of *Aloe lucada*, is identical with the aloin yielded by Uganda aloes, as evidenced by a correspondence in their melting-point and composition. That isoaloin is not a constituent of Zanzibar aloes. That Tilden's formula for zanaloin, $C_{16}H_{18}O_7$, has been confirmed by Tschirch, its composition being identical with capaloin and ugaloin, from both of which it differs in its higher melting-point. That Tschirch has also confirmed Flückiger's formula for socaloin, $C_{34}H_{38}O_{15}+5H_2O$. That Socotrine aloes gives Bornträger's reaction less markedly than Barbados, Curaçao, or Cape, and that the reaction depends upon the presence of an oxymethyl-anthraquinone group.

Points of disagreement that have arisen between investigators may be largely due to a difference in the variety of aloes operated on. Leger states that the French and English commercial aloes barb. are apparently different. Tschirch joins issue with Leger, who states that Jafferabad aloes contains about 20 per cent. of aloins, chiefly isobarbaloin, and that Cape aloes (botanical source?) gave him barbaloin and a new aloin differing from those known. The chief points of difference are at the present time the subject of investigation, and their settlement may confidently be anticipated in the near future. Added testimony to the extent to which aloe emodin exists *per se* in the different aloes is needed. It is generally conceded that Barbados aloes (Curaçao) is more active than any of the other varieties, but Holmes affirms that Cape is more purgative than other kinds, while Tschirch and Pederson attribute to the aloe emodin the property of exercising an important influence on the medicinal action of the drug. That aloin is the chief but not the only active constituent of aloes does not appear to be open to doubt; hence in any valuation of the drug a determination of the aloin alone would be an insufficient measure of its medicinal value. The resin is understood to be quite inactive, so that the most rational method of assaying the drug would be to estimate the non-resinous constituents either directly or by difference. For this purpose Tschirch and Hoffbauer have devised a process which gives results that do not accord with physiological testing or common experience, and the accuracy of which has been disproved by Van Itallie. This is a question to which pharmacists should address themselves. A series of experiments with the object of determining the proportion of non-resinous constituents and aloin would be of service in helping to fix standards for this important drug.

Balsam of Tolu.

Experience of the bisulphide-of-carbon test of the Pharmacopœia shows it to be in many cases valuable for discriminating between genuine and spurious balsams. From the description of it in the official monograph certain details are omitted which are needed to be observed for its successful application. To the more important omissions, revealed by my own experiments and those of others, I desire to call attention. The instruction to evaporate the carbon-bisulphide solution to dryness lacks precision. It should be amended so as to read after "dryness" "at a temperature not exceeding 110° F., until the weight is constant," as cinnamic acid is appreciably volatile at higher temperatures, and loss would be likely to ensue. Spilsbury and Joyce effected the drying of their residues at or below 100° F. The direction to saponify the dry bisulphide-of-carbon residue with potash is too indefinite, and after "potassium hydroxide." the wording "in the form of normal alcoholic solution, the mixture being heated for three-quarters of an hour in a water-bath," should be inserted. As to the standard fixed for ensuring the presence of a sufficient proportion of "benzoates and cinnamates," my experience indicates that as a minimum it is too high, and has the effect of excluding genuine samples of the balsam. In place of "not less than one-third of its weight of potassium hydroxide" of the Pharmacopœia I should suggest not less than 290 parts of potassium hydroxide per 1,000 parts of dry residue, as against Braithwaite's original recommendation of not less than 300 parts. It has been suggested that the potash consumed should be calculated into cinnamic acid on the original balsam. The expression of the result in terms of cinnamic acid has no advantage over the present method; but a saving of time would be effected by expressing the result on the original balsam in place of the dry residue, as evaporation of the carbon-bisulphide solution would not require to be carried beyond the stage necessary for the removal of the solvent. In addition, it is desirable that the proportion of free acids to esters extracted by the carbon bisulphide should be known, which can readily be ascertained by titrating the residue with alkali before saponifying. Spilsbury and Joyce are of opinion that the saponification-equivalent is insufficient, and that partially exhausted balsams might still satisfy the official requirement. The qualitative tests for the balsam should include one for the detection of rosin and copaiba. If the tests as described in the Pharmacopœia were amended on the lines indicated, I am of opinion that their value would be considerably enhanced. The quantitative test of the United States Pharmacopœia has the advantage over the British Pharmacopœia one in point of simplicity and time required for its execution; but any acid or saponifiable body soluble in alcohol, added to the balsam, would be titrated and reckoned among its natural constituents. It has the defect in that the end-reaction is not so sharp as could be desired. With the B.P., on the other hand, resinous bodies likely to interfere with the saponification are readily detected by the character of the carbon-bisulphide residue. It is noteworthy that the U.S.P. process has yielded me higher figures, both for acid and saponifiable substances, than those obtained by titrating and saponifying the carbon-bisulphide residue of the B.P. process.

Cantharides.

Until the researches of Greenish and Wilson a really dependable process for the estimation of cantharidin, free and combined, in Spanish flies was a desideratum. The assay of the fly both by Greenish and Wilson's and by Dieterich's process gives concordant results, and the average yield of total cantharidin from sound specimens may be fixed at 0.60 per cent. Experience, however, shows considerable variation in the commercial article—a statement which finds confirmation in the complaints that occasionally arise as to the failure of the official liquor epispasticus to answer the required purpose. That any liquid preparation of cantharides, when the solvent employed is bland in its nature, owes its activity to the cantharidin present is universally conceded. It does not appear, however, to be equally well known that when the cantharides is applied in the form of a plaster its capability for blistering-purposes is increased by the degree of coarsenesss of the powder employed. Cases have come within my personal knowledge where the official plaster when made with Spanish fly in fine powder has failed to raise a blister, but has proved effectual when a coarse powder has been substituted. The reiterated recommendation to replace the crude drug by an

equivalent of cantharidin in the official preparations is deserving of serious consideration by clinicians, and if found to yield satisfactory results should be adopted. The only additional suggestion I make bold to offer is that Professor Greenish or some other equally competent investigator should, in the light of newer knowledge, re-investigate the subject with the direct object of devising a process, simple of operation, that would ensure the complete extraction of the cantharidin and its exact determination.

Cascarilla.

The chief constituents of cascarilla are a bitter crystalline substance (cascarillin), an indefinite resin, essential oil, and one or more bases. The medicinally valuable substances may be limited to the first three. Indeed, if the therapeutic uses of the drug depend on the presence of an agreeable bitter, then the important principle is the cascarillin. In consideration of the ease with which cascarillin can be obtained in a state of purity, colourless, crystalline, of constant melting-point and composition, it is a matter of surprise that little is known of its pharmacological action or therapeutic use. In the absence of dependable information of the separate constituents—definite and proximate — any assay of the drug must embrace these bodies in their entirety. From experiments that I have made, alcohol appears to me to be too general a solvent for determining exclusively the really useful constituents. For the valuation of the drug I recommend its exhaustion with acetone in a Soxhlet, the recovery of the solvent by distillation, and the drying of the residue at 120° F. to constant weight. The marc is quite free from bitterness and oil, so that the extractive represents to the full extent the aromatic bitter for which the drug is prized. If it is desired to carry the process a step further and determine approximately the proportion of bitter relatively to essential oil, this can readily be done by subjecting the weighed residue constant at 120° F. to 230° F. until it ceases to lose weight. Dr. McWalter has suggested that cascarilla might be more largely used by physicians if it could be obtained of less varying quality, he having noticed considerable variations in the proportions of ash and extractive yielded by the drug. After much experimenting, I have found of recent years a considerable deficiency of the bitter principle cascarillin, the bark otherwise being of excellent quality.

President, Vice-President, Secretary, and Treasurer of the Ladies' Local Committee.

Euonymus.

The chief form in which this drug is administered is that of a powdered alcoholic extract of the bark. On more than one occasion I have pointed out the greater activity of the euonymins over the extractum euonymi siccum when made with stronger alcohol than 45 per cent. Of the official extract Marshall in his "Materia Medica" remarks, "It is generally said to increase the secretion of the bile, but it probably acts only as a cholagogue purgative." He further states, "The pharmacopœial doses are insufficient to cause purgation." My personal experience of the extract is in general agreement with these statements, and justifies me in modifying them only to the extent that in the dose usually given it rarely acts as a purgative but as a tonic. The published experiments of Naylor and Chaplin, Squire, and others all show that if by an effective preparation is implied one that will act as a powerful hepatic, then an alcohol not weaker than 70 vols. should be used in the making of it. The extract of euonymus of the recent Pharmacopœia of the United States is a good example of what the preparation ought to be (of combined pharmaceutical propriety and therapeutic effect), and I hope one equally active will in due course replace the unnecessarily weak extract of the present Pharmacopœia.

Gelsemium.

The literature of gelsemium-root having reference to its examination chemically dates back to 1855, when Kollock isolated an impure substance which he designated gelseminia. In 1869 Eberle examined the root and reported that the woody portion contained no alkaloid. The following year Wormley isolated a new and fluorescent principle possessing acid properties, which he named gelseminic acid. Concurrently he found that gelsemmia produced all the symptoms usually observed in cases of poisoning by the drug—a statement subsequently confirmed by Bartholomew, and supplemented by the interesting observation that pharmacologically it resembled conium more nearly than any other drug with which he was acquainted. In 1882 Wormley disproved the statement by Robbins that gelseminic or gelsemic acid was identical with æsculin, and the correctness of his observation was confirmed a few years later by Coblentz and by Schmidt, who found it to be identical with β-methyl æsculetin. Gerrard, who examined the root in 1883, for the first time succeeded in obtaining a base that crystallised, from which he prepared characteristic crystalline salts. To the base, which he named gelsemine, he assigned the formula $C_{12}H_{14}NO_2$. Four years later Thompson isolated two bases from the root, one being crystalline and the other amorphous, thus confirming Ringer and Murrell's hypothesis as to the existence of two alkaloids. The amorphous base was pronounced by Cushny to exert a much more powerful physiological action than the crystallisable base. Ten years after Gerrard's investigations, Spiegel prepared crystalline salts of the amorphous base, and gave to gelseminine the formula $C_{22}H_{26}N_2O_3$ or $C_{24}H_{28}N_2O_4$, which is Gerrard's formula doubled. In 1896 Göldner repeated Spiegel's work and confirmed it. Despite the confirmation of Spiegel's results, his formula does not appear to have found acceptance by the author of a recently issued and most excellent text-book of materia medica. Our present knowledge of gelsemium, considered chemically and physiologically, and confirmed by different investigators, may be stated to be that the root contains two alka-

loids—gelsemine, which is crystalline, and gelseminine, which is amorphous; and that the latter is physiologically more active than the former. The point that awaits determination is the relation of the two bases to each other.

In consideration of the fact that gelsemium is a powerful drug and that its activity is due "almost solely" to its alkaloidal principles, it is a matter of surprise that the United States Pharmacopœia has not directed the liquid extract to be standardised, the more so as it is commercially obtainable of a definite alkaloidal strength.

Ginger.

The chemistry of this drug does not appear to have received that measure of attention which, from its general use as a domestic remedy, it deserves. It is not easy to assign a reason for this comparative neglect. It may be due to the generally accepted opinion that the mixture of substances known as gingerin or oleoresin of ginger represents all that it contains of medicinal value, and that, the therapeutic requirement having been adequately met, the stimulus needed for further chemical investigation does not exist. On the other hand, the fact that the active principle occurs only in small quantity, and that its isolation in a state of purity is a matter of great difficulty, owing to the tenacity with which it retains resin, and the ease with which it is decomposed, may have deterred investigators from extending their inquiries in this field of research. Again, the drug contains many other constitutents, the isolation and purification of which require much time and care. The name of Dr. Thresh, a former officer of this Conference, stands out prominently in the literature of ginger by reason of the elaborate and extended nature of his investigations. The results of the earlier portion of his work were communicated to our annual meeting in 1879 at Sheffield, and were followed by other valuable papers on the same subject. According to his researches, an ethereal extract of the rhizome of Jamaica ginger, which is practically gingerin, contains volatile oil, fatty and resinous bodies, and a pungent principle, gingerol, which occurs as a viscid, yellow, and odourless liquid. Among other constituents detected in the drug was an alkaloid occurring in minute traces, which he did not isolate and about which nothing is known. He also determined, but calls his results "mere approximations," the percentage of gingerol in the rhizome, and subsequently examined more minutely the resins and gingerol that he had isolated. He did not succeed in obtaining gingerol in a crystalline form, but assigned to it the formula xC_5H_8O. The volatile oil on further examination was found to be "an exceedingly complex mixture of hydrocarbons and their oxidation products." The chief constituent was a hydrocarbon, $C_{15}H_{24}$. Later investigators have found camphene, zingiberene ($C_{15}H_{24}$), and phellandrene, although the presence of the last-named has been questioned by some. The average percentages of the resin yielded by the three kinds of ginger are: Jamaica, 4.8; Cochin, 4.6; African, 6.6. The recommendation by Idris of acetone for the extraction of the pungent and aromatic principles of ginger has met with much favour. The frequency with which ginger is adulterated with "spent ginger" has led to many attempts to devise some simple and reliable means of detecting such adulteration. Dyer and Gilbard recommend the determination of the alcoholic extract obtained after previous exhaustion with ether, but the experiments of the late A. H. Allen, of C. J. Moor, and of C. T. Bennett give the preference to the determination of the soluble ash and cold-water extract. Further information on the chemistry of gingerol is very desirable.

For a more complete and much-needed valuation of ginger for pharmaceutical purposes, I submit that what is required is a process, sufficiently accurate and easy of execution by the pharmacist, for the separation of the volatile oil and gingerol free from the fatty and resinous substances that accompany them in the oleoresin, and its application to the determination of the pungent and aromatic principles of ginger—that is to say, a process for assaying the drug on the basis of its gingerol and volatile oil. I have good reason to believe that an examination of commercial gingerins (oleoresin) would yield interesting results.

Guaiacum Resin.

That the chief constituents of the resin of guaiacum are guaiaretic acid, guaiaconic acid, and guaiacic acid is not a matter of dispute. Of these three acids the second is invariably present in the largest proportion, and is acknowledged to be a constituent to which is mainly due the blue colour produced by the action of oxidising-agents on the resin. The limitation of the description in the official monograph to its physical character and a colour-reaction is unnecessarily severe, and the paragraph should be extended so as to prescribe tests for assuring the quality of the resin and its freedom from common adulterants. The official requirements should include the proportion soluble in 90-per-cent. alcohol and the percentage of ash as proposed by J. C. Umney, and the insertion of definite limits for the acid-number (Dieterich). A specific test for rosin, which is a cheap and not uncommon adulterant, should be given. The one described in the U.S.P. is easily applied, and comparative experiments have satisfied me that it is capable of detecting any proportion of rosin added for the purpose of profitable adulteration. In the description of the U.S.P. test, instead of "should not give a green colour on the addition of an equal volume of solution (1 in 1,000) of cupric acetate," the direction should read "when shaken with an equal volume of an aqueous solution of cupric acetate (1 in 1,000) the supernatant liquid should not be coloured green." Experience of the method prescribed in the same volume for the determination of the acid-number shows it to be unsatisfactory, inasmuch as the end-reaction is indefinite, and a small error in reading off the volume of alkali required is the cause of a large error in the result. P. Richter has recently shown that guaiaconic acid consists of α and β acids, and that when treated severally with oxidising-agents the α variety alone yields the characteristic blue colour ("Archiv. d. Pharm.," 244, 90).

Hops.

Although the chemistry of hops has received a large share of attention, there still remains much uncertainty as to its definite principles. The processes employed by the earlier investigators for the isolation of the bitter constituent would undoubtedly effect to a large extent its decomposition, and consequently the results obtained have now little more than an historic value. Among the supposed educts extracted by different workers at various times may be mentioned lupulotannic acid, lupulic acid, α and β hop bitter acids, lupulinic acid, boric acid, myricin, asparagin, trimethylamine, choline, an alkaloid, an enzyme, resins, fatty matter, etc. Some of these have been shown to be identical, and it may be anticipated that extended investigation will still further curtail the list. Lermer appears to have been the first to isolate, though in an impure state, an acid that was bitter and crystalline, and closely approximated to one of the accepted bitter principles of the drug. This, when purified, is identical with the lupulic acid which Bungener (H) obtained from lupulin. Barth and Lintner recognise two bitter acids, α and ; the latter (lupulinic acid) they pronounced identical with Bungener's lupulic acid. The two acids are closely allied, and have nearly equal equivalent weights. Lintner and Schnell designate the β acid "lupulinic acid," and the acid "humulone," and the evidence tends to show that these are the bitter principles of hops.

The diverse properties attributed by various investigators to the alkaloid of hops suggest the possibility that different substances have been in the hands of the respective authors. Hantke has isolated an alkaloid from the seeds, and has promised further work on the subject, so we may hope that the question will be satisfactorily settled. There is little doubt that the active principles of the hops reside in lupulin. Russell found that an extract prepared from the bracts free from lupulin was inactive. If this is so, then hops might with advantage be deleted from the Pharmacopœia, and lupulin alone retained. Rutherford Hill states that a tincture made from lupulin lacks the peculiar tannin of hops. Future investigation may decide whether this constituent is of medicinal value. Regarding the valuation of hops and their preparations for pharmaceutical purposes, further development will almost certainly take place in the direction of an estimation of the bitter principles. Lintner has devised a process in which these bodies are assayed by standard potash solution. In Remy's process provision is made for the approximate quantitative separation of the bitter acids. It is upon lines similar to these that methods for the deter-

mination by chemical means of the medicinal value of the drug will in all probability be based.

Lobelia.

This drug has been the subject of considerable research, but the results obtained have been too variable to place beyond a doubt to what principles or principle it owes whatever medicinal value it possesses. Whether it contains the one base only, lobeline, and, if so, whether it is liquid or solid, or whether two bases are present—one liquid and the other crystalline, or one amorphous and the other crystalline—is a question that apparently still awaits a satisfactory settlement; an expression of opinion that implies no reflection on the quality of the work published by those who have chemically examined it. The balance of probability, and, indeed, the generally accepted view, is in favour of Siebert's liquid base lobeline as being the (specific) principle on which its activity depends. Until, however, the results of further research provide the data on which can be founded a common agreement, it would be prudent to refrain from standardising the official tincture by a process based on its alkaloidal strength.

Male Fern.

The literature of male fern suggests that it is a veritable hunting-ground for the scientific investigator. All who have turned their attention to it have had a find that must have gone far to sweeten their labour. Among the principles discovered and isolated in the rhizome of the aspidiums examined or their ethereal extracts are filicic acid (crystalline and amorphous), volatile oil, aspidin, albaspidin, flavaspidic acid, filicinyl butanone, aspidinin, aspidinol, and filmaron. Clinical observation has repeatedly made clear that the ethereal extract of male fern is liable to contain a toxic body in addition to a marked vermifugal principle or principles. Walko is of opinion that the untoward effects following the administration of the extract are due, not, as generally supposed, to filicic acid, but more probably to aspidin and aspidinin. Hausmann states that aspidin is not a constituent of *A. Filix-Mas*. As to the principle or principles to which its anthelmintic properties are to be attributed, there appears to be no definite fixity of opinion. Poulsson and Kraft agree that crystalline filicic acid is comparatively inert, and that amorphous filicic acid is the active constituent. Kobert lays stress upon the volatile oil as an important constituent, while Kraft is equally decisive that pharmacologically it does not count. Boehm at first fixed upon aspidin and filicic acid as the principles of anthelmintic value, but after further researches concluded that aspidinol, flavaspidic acid, albaspidin, and filicinyl butanone also exert a tænicide action more or less pronounced. Finally Kraft isolated an amorphous acid which he designated "filmaron," and as a non-toxic and satisfactory vermifuge it claims to hold the field. Clinical observations made by Jaquet go to show that filmaron is innocuous and effective for the expulsion of worms. Of the many principles isolated from male fern, the only one commercially obtainable on demand, so far as my knowledge goes, is filicic acid amorphous. By what process it is made, or whether it corresponds to any of the published descriptions of the acid that passes under this name, I do not know. And, moreover, it is not clear that the several principles referred to have all been obtained from *Aspidium Filix-Mas*, or whether certain of them are to be found only in other species of *Aspidium*. Extended investigation may show that what are claimed to be educts may be more properly described as products. Filmaron in the near future may fail to maintain its distinctive identity. Nagel's statement deserves to be put to the test of clinical experiment—that the activity of male-fern extract as an anthelmintic depends entirely on the age of the drug employed in its preparation, and that only when the fresh drug of the last season's growth is used are satisfactory results obtained. It would be a distinct advantage if a research chemist experienced in the isolation of vegetable principles would take specimens of male fern of varying ages, grown in this country, and re-examine them, and have tested, first chemically, and afterwards clinically, the definite bodies obtained.

Now, since the use of the ethereal extract of male fern in medicine is practically dependent on its value as a vermifuge, it is of first importance that the principle or principles to which it owes its required property should be placed beyond a doubt, or at least reasonable controversy, before any recommended process for standardising it can be accepted. In the present stage of our knowledge Daccomo and Scoccianti's, Kraft's, and Stoeder's processes for the determination of filicic acid, however accurate for this constituent, cannot justifiably aspire to measure the anthelmintic value of the extract. Inability to estimate the vermifugal activity of the ethereal extract must not be allowed to act as a deterrent against the application of tests for known and gross adulterants.

Myrrh.

The point to which greater attention should be directed is the percentage of volatile oil. An examination should be made of a large number of samples, carefully verified by an expert, including the following data—ash, solubility in 90-per-cent. alcohol, saponification-number, and volatile oil—with the view to ascertaining the feasibility of arriving at percentages indicative of samples of good quality commercially obtainable, and that would exclude, within reasonable limits, the more commonly occurring adulterants.

Senega.

If it is permissible to judge of the importance of a drug by the extent to which it is in demand, then senega undoubtedly deserves this distinction. Having regard to the frequency with which its infusion is prescribed in bronchial affections, it is singular that the root should have been the subject of chemical examination by so few investigators. The two constituents of recognised importance are senegin and polygalic acid, but whether these principles are identical respectively with the sapotoxin and quillaiac acid of quillaia-bark cannot be said to be known with certainty. It is more than probable that the varying results of different investigators are due to the substances isolated not having been finally obtained in the same degree of purity by the different observers. Another point of interest, and respecting which divergent views are held, is the alleged presence of methyl salicylate. Two opinions have been advanced, not necessarily mutually destructive—one that the ester is a product of the slow decomposition of senegin, the other that it exists already formed in the drug. Bourquelot maintains that it is resident in the root potentially in the form of a glucoside, from which it is liberated by the action of a ferment contained in the plant. Kremers and James have conclusively shown that as a means of distinguishing between true and false senegas the methyl-salicylate test is utterly fallacious. Our knowledge regarding the constituents of senega must be pronounced unsatisfactory, at least to the extent that it is insufficient for the purpose of a pharmacological valuation of the drug by chemical processes. With the opinion expressed by Professor Greenish in his "Materia Medica" that both senegin and polygalic acid require further investigation. I entirely agree. Dr. Marshall is responsible for the statement "that we do not know the effects to be obtained from the drug alone, and pharmacological experiment does not lend much support to the view that its good effects more than counterbalance its undesirable actions." A complete re-investigation of true senega is needed to supply an answer to the questions (1) What are the essential constituents? (2) In what proportion do the chief constituents exist? (3) To what principle or principles are due its medicinal virtues or therapeutic properties? Until we are in possession of these facts—and they ought not to be difficult of acquisition—we are not in a position to justify an attempt to assay senega by the estimation of a definite principle.

Veratrine.

That this preparation when made by the process described in the British Pharmacopœia is a mixture of bases and altered products may be safely affirmed. That it consists chiefly of cevadine (the veratrine of Merck, Schmidt, and Köppen), together with veratrine and possibly cevadilline, with partially hydrolysed bases, is not open to serious question. If it is justifiable to assume the individuality of sabadine and sabadinine respectively, it is understood that they are present in proportions too small to affect intrinsically the character of the mixture. That the veratrine of commerce is rarely of English make, and that the permissible process of the Pharmacopœia is too antiquated and too

destructive of alkaloidal content to command the acceptance of manufacturers, are more than probable. There is great need for further experimental work with the specific object of obtaining reliable information as to the proportion in which the different alkaloids exist in commercial samples of the drug. That our knowledge of the composition of an official substance apparently so complex, and so powerful in its action, is so meagre probably arises from the rarity with which the drug is prescribed and the limitation of its use, in the form of an unguent, to the destruction of pediculi. Inasmuch as in physiological action it greatly resembles aconitine, and as an ointment of the latter is official, its retention in the Pharmacopœia is of doubtful value. If, however, the authorities decide to include in the next edition of the official volume a substance that produces the therapeutic effects of cevadine (veratrine), the present mixture of bases should be replaced by the pure alkaloid.

And now, having briefly summarised our knowledge regarding some of the more important drugs, it will be readily seen that, despite the large amount of work done and the high character of much of it, many points still call for investigation. The pharmacist who has the needed experience, leisure, and appliances to assist in the settlement of questions of great moment to medicine will add to his professional status and render a valuable service to the community.

It is my conviction that British pharmacy has made steady and signal advances during the last twenty-five years. Reviewing reflectively that period, during the whole of which I have been continuously and practically engaged in the examination of crude drugs and their various preparations, and the making of galenicals on a large scale, I am able from personal knowledge to affirm that the medicines supplied through qualified retail pharmacists are of a quality that was unobtainable less than a quarter of a century ago—a remark that particularly applies to preparations capable of assay by chemical processes. The rubric of this Conference to which every member tacitly subscribes—viz., to maintain uncompromisingly the principle of purity in medicine—is observed more generally and intelligently, though I will not admit with greater fidelity (for the impugnment of honour is not implied), than in the past. That second and third quality drugs are a marketable commodity, and that preparations made from them bearing official names, but not of standard strength, are purchasable, cannot be denied. That section of the public who demand to be supplied with cheap drugs do not need to be informed where they can be obtained. To the credit of pharmacy in this country be it said that amid excessive competition, aggravated by legislative enactments that unintentionally but admittedly apply to the disadvantage of the qualified proprietor as against the unqualified owners of impersonal combinations, and despite the temptation to conduct their businesses purely on commercial lines, there are a large number in the craft who practise high-class pharmacy, and of those who are circumstanced where it is not required, many nevertheless take a living interest in its advancement; and there is a small but not inconsiderable remainder of highly trained men who with praiseworthy zeal devote their little leisure to the prosecution of pharmaceutical research.

To foster the spirit of investigation is the main purpose for which the Conference exists, and the measure in which it has achieved the object of its high calling may be judged by a careful study of the papers communicated to its annual meetings and published in the "Year-book of Pharmacy." In order that the Conference may continue its onward march along the path of usefulness marked out by its founders and approved by their successors, it invites the practical support of members of the craft throughout the United Kingdom who are unconnected with it and their loyal co-operation in its persistent endeavour to maintain and promote the highest interests of British pharmacy.

Vote of Thanks.

Mr. G. Claridge Druce, proposing a vote of thanks to the President, said it was difficult for him to think that he was the senior Vice-President present. All would share in the feelings of sympathy he felt at the bereavement which prevented their dear friend Mr. Atkins from being with them. (Hear, hear.) Dr. Attfield was unwell and unable to be present, and it therefore devolved upon him (Mr. Druce) to move a vote of thanks to Mr. Naylor for his excellent address. Mr. Naylor is the embodiment of the practical side of pharmacy. His address was brimful of real facts which will make themselves felt in the progress of pharmacy. As the history of the Conference grows it must be increasingly difficult for the President to find a suitable subject for his address, and Mr. Naylor had done wisely in having chosen a subject in which he is *facile princeps*. The address was, perhaps, not of a popular character, as it dealt largely with the recondite principles of pharmacy. But it would appeal outside to a large audience of pharmacists who would proceed to put the hints and suggestions in the address into actual practice. They were very grateful to Mr. Naylor for such an address as he had given, especially at the present time, when pharmacy is looked upon as somewhat of a decaying profession, and when high-class pharmacy and research are looked upon as unnecessary. He (Mr. Druce) thought that such work was never demanded more than at the present time. They had to deal with competition to-day which was entirely unknown when the Conference met there twenty years ago. Of late the public have been educated the wrong way, but he thought the time would soon come when cheapness, flashiness, and tawdriness would be universally looked upon as vulgar. These things should be so regarded particularly in pharmacy, where life is at stake. He (Mr. Druce) thought that they, as members of the Conference, could truthfully say that they as pharmacists had endeavoured to carry out the tenets of the Conference in all that tended towards purity and precision. As helping towards these ends the address of Mr. Naylor will do much good, and the meeting desired to give him their grateful thanks. (Applause.)

Mr. W. Gowen Cross, as a member of the Local Committee, seconded the motion so ably proposed by Mr. Druce. In doing so he expressed, he said, the unanimous opinion of his colleagues. They knew Mr. Naylor as a hard-working man with little leisure, and they were especially grateful to him for the trouble he had taken in compiling and delivering to them such an excellently practical address. (Applause.)

Mr. Thomas Barclay, in supporting the motion, said the address, in his opinion, was an ideal one. Mr. Naylor had idealised the future for them, contrasting it with the cheap and nasty operations they had to contend against at the present day. (Applause.)

The motion was put by Mr. Druce and received with enthusiasm, Mr. Naylor returning his sincere thanks in a few words.

Letters of regret for absence were read from Sir Oliver Lodge, Dr. Attfield, Dr. George Coull, and Messrs. Walter Hills, Peter MacEwan, N. H. Martin, Middleton, F. C. J. Bird, and E. M. Holmes. Sir Oliver Lodge explained that he had to go away until the end of August. Dr. Attfield said he was compelled, regretfully, to give up the idea of attending owing to a sharp attack of neuritis. He asked that his kind regards be given to Mr. Barclay, whom he first met at the Conference forty-one years ago.

Reception of Delegates.

The Senior Hon. Secretary then called over the following list of delegates from the different pharmaceutical societies to the Conference. Many of the delegates, it may be noted, were not present.

Pharmaceutical Society of Great Britain.—Mr. R. A. Robinson (President), Mr. J. R. Young (Vice-President), Messrs. Atkins, Carteighe, Cross, Gibson, Gifford, Hagon, Hobbs, Newsholme, Symes, and Wootton.

Pharmaceutical Society of Great Britain (North British Branch).—Messrs. D. B. Dott (Chairman), J. P. Gilmour (Vice-Chairman), Giles (Aberdeen), Glass (Edinburgh), Nesbit (Portobello), J. Tocher (Dumfries), and W. P. Wilson (Haddington).

Pharmaceutical Society of Ireland.—Dr. Walsh (President), Mr. J. Smith (Vice-President), Messrs. Beggs, Hardy, Watson, and Wells.

Bradford Chemists' Association.—Messrs. Hanson and Silson.

Brighton Association of Pharmacy.—Messrs. Crisp, Robinson, and Savage.

Bristol Chemists' Association.—Messrs. Boorne and J. W. White.

Cambridge Pharmaceutical Association.—Messrs. A. S. Campkin and E. S. Peck.

Cheltenham Chemists' Association.—Messrs. Barron and Thomas.

Chemists' and Druggists' Society of Ireland (Belfast).—Mr. W. J. Gibson.

Edinburgh Chemists', Assistants', and Apprentices' Association.—Messrs. Cowie, Currie, Duncan, Glass, and Rutherford Hill.

Exeter Association of Chemists and Druggists.—Messrs. H. W. Gadd, J. H. Lake, and Aplin.

Forfarshire Chemists' Association.—Messrs. Burrell and Hutton.

Glasgow and West of Scotland Chemists' Association.—Messrs. Brodie and Gilmour.

Liverpool Chemists' Association.—Messrs. T. F. Abraham, J. H. E. Evans, Wm. P. Evans, and C. Symes.

London Chemists' Association.—Messrs. Leo Atkinson, Feaver Clarke, Glyn-Jones, Holding, Truman, and J. C. Umney.

London Western Chemists' Association.—Messrs. E. White (Vice-President), T. H. Mather, and F. A. Rogers.

Manchester Association.—Messrs. Balmforth, Franklin, Grier, C. A. Johnstone, Kemp, Kirkby, Pidd, Wild, and G. S. Woolley.

Newcastle-on-Tyne Chemists' Association.—Messrs. Clague, Foggan, and Gilderdale.

Nottingham and Notts Pharmaceutical Association.—Messrs. Adamson, Eberlin, Middleton, and Parkes.

North Staffordshire Chemists' Association.—Messrs. Averill, Bentley, E. Jones, and Marson.

Oxford Chemists' Association.—Messrs. Clayton and Druce.

Sheffield Pharmaceutical and Chemical Society.—Messrs. Antcliffe, Appleton, Carr, Dixon, Fox, Jackson, Newsholme, Pater, Upsher-Smith, and H. G. Williams.

The PRESIDENT asked if there were any other delegates present, but receiving no reply, called on Mr. PECK to read the

REPORT OF THE EXECUTIVE COMMITTEE,

the following being the complete report :

The Executive Committee, in presenting their forty-third annual report, are glad to be able to state that the interest in the proceedings of the Conference continues to be well maintained. Since the presentation of the last report thirty-four members have resigned, while no fewer than 250 new members have been elected—a result largely due to the efforts of our Birmingham friends and the local corresponding secretaries throughout the country, whom we wish specially to thank. We believe the success which has attended their work will prove an incentive to further efforts in the future. The Conference has to deplore the death of J. B. Stevenson (President) and A. Strachan (Local Secretary), respectively, of the Conference at Aberdeen in 1885. The Research Sub-Committee has met upon three occasions, and thoroughly revised the research list. We trust that members will work out several of the problems there mentioned during the year. Two hundred and six copies of the "General Index" have been sold since the last annual meeting, and your Executive feel that a larger number should have been purchased by the members, seeing that the volume renders the "Year-books" so much more valuable as works of reference. Further, in view of the large expense entailed by the publication of this "General Index," your Committee appeal to the members generally to show their appreciation by acquiring copies. As the result of the special appeal, we have pleasure in reporting that an amount has been subscribed nearly sufficient to defray the cost of the "Index." The MSS. of abstracts for the "Year-book" are already in the printer's hands, and publication of the "Year-book" may be expected at an earlier date than usual. We trust that the members generally will support the Executive in endeavouring to secure further additions to the membership, and to encourage those already elected to continue their interest in the Conference in order that its work may be efficiently maintained.

Mr. D. B. DOTT moved the adoption of the report, and this having been seconded by Mr. GRICE (Calcutta), it was put to the meeting by the PRESIDENT and carried.

FINANCIAL STATEMENT.

The HON. TREASURER (Mr. J. C. Umney) then presented his financial statement for the year ending June 30, 1906. The following is an abstract of the report :

DR.

Assets from last year	£90	1	8
Subscriptions	285	9	3
Sales of "Index," "Year-book," and "Formulary"	50	11	0
Advertisements in "Year-book" ...	78	15	10
Bell and Hills Fund	25	1	7
Liabilities	207	7	5
	£737	6	9

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Bell and Hills Fund	£26	6	4
"Year-book" expenses	237	1	8
Editor's salary	100	0	0
Sundry expenses	85	7	11
Printing and stationery	9	9	10
Liabilities last year (since paid) ...	183	2	11
Cash in hand and at bank	95	18	1
	£737	6	9

The financial statement thus shows a deficit on July 1, 1906, of 111*l.* 9*s.* 4*d.*

The Bell and Hills Fund accounts accompanied the statement, and showed a balance in hand of 38*l.* 5*s.*

Mr. J. C. UMNEY said from the report it would be seen that the Conference is in debt to the amount of 111*l.* 9*s.* 4*d.*, which is a little greater than in 1905, but less than in 1904. He looked forward to a large access of members, and also suggested that members need not limit their subscriptions. The sum of 7*s.* 6*d.* he regarded as the minimum. (Laughter.) The net increase in membership which has taken place on the year shows that the outlook is brighter. The sum of 285*l.* received in subscriptions is smaller than usual, but is due to the fact that the annual notices were not distributed as early as usual. Next year he hoped there would be no deficit. (Hear, hear.) Mr. Umney then referred to the fund that was opened to defray the cost of publishing the "Index." The sum of 186*l.* was received in subscriptions, and, as the "Index" cost 211*l.*, there still remains a deficit, for which he (the Treasurer) is open to receive contributions. He also hoped that more copies will be purchased, as the book is a useful addition to the "Year-books" and is the only index of pharmaceutical research that is published.

Mr. THOMAS TYRER moved that the report be received. He is, he said, interested in the financial and economic side of another large society, and he hoped that the Conference will not lower the technical and scientific standard of the "Year-book." That is a reference-book which is at hand when there is no one to ask. It is unwise to be too economical in such matters as efficiency. As to the sale of the "Index," he thought it absurd not to have so valuable a time-saver at hand. In these times everyone is so busy that there are even some who have no time to attend the Conference. The Society of Chemical Industry are about to publish a decennial index, which will run to 11,000 pages.

RAISING THE SUBSCRIPTION.

Dr. SYMES seconded the adoption of the report. He said the financial condition of the Conference is not satisfactory, but it has been unsatisfactory for a long time. Although the financial condition may be at times critical, there is no danger that the Conference will collapse. He preferred to see the Conference supported by many pharmacists than by few. Many years ago he (Dr. Symes) made the suggestion —which he desired to repeat—that a secondary list of voluntary contributors be published. There are objections to this, but he thought that many, when sending their subscription, would willingly include at least 2*s.* 6*d.* to the donation account; the Conference would not then always be in a state of poverty. He was surprised that the "Index" is not more used; much can be found out by continually referring to the "Year-books," and the "Index" makes that an easy process.

Mr. ALLMAN (Ealing), Mr. J. WAKEFIELD, and another local member suggested that the subscription be raised, Mr. Wakefield adding that when asked to pay 7*s.* 6*d.* he would just as willingly have sent half a guinea.

Mr. PECK said the Conference heartily welcomed donations. (Laughter.)

Mr. GERRARD suggested that a class of associates be founded intended for smaller subscribers. This would have the advantage of keeping the younger men in touch with the Conference. Such associates would not be entitled to receive the "Year-book."

Dr. J. A. WALSH suggested that the subscription be raised to 10*s.* 6*d.* He guaranteed that the Conference would not lose any Irish members. The number of members in Ireland is not large, but the Irish are fond of paradoxes, and if the subscription is increased probably there will be more members. (Laughter.)

Mr. ALLMAN then put a definite motion "that it be a recommendation to the Executive Committee to consider the question of raising the subscription."

The President, accepting the motion as a recommendation, put it to the meeting, when seventy-five voted in favour and five against.

Mr. W. F. Wells, amidst laughter, suggested that the seventy-five should show their practical support by paying up at once.

The "Index."

The President then referred to the Index Fund, upon which there is a deficit of 25*l.*, which, he said, is exceedingly serious, and should be paid off. If anyone present had a mind to give or promise a small amount he would be glad to hear from them. He desired, however, to exert no pressure, but to make this a simple appeal to those who are disposed to assist in wiping out the deficit. The price of the "Index," which was originally 3*s.* 6*d.*, is now raised to 7*s.* 6*d.*

The financial report was then received and adopted.

Colonial Visitors.

The President said they had with them several Colonial visitors, and he desired, in the name of the Conference, to give them hearty welcome. He mentioned the names of Mr. and Mrs. Clayton (of Adelaide, South Australia), Mr. and Mrs. McJannet (of Cape Colony), Mr. Grice (of Calcutta), and Mr. Moore (of Assam), and invited them to the platform and to say a few words if they felt so inclined.

Mr. Clayton, who spoke first, said the door of Australia is always open to British chemists, the Minor qualification being sufficient to allow practice in the Commonwealth. Unfortunately the Australian qualifications were not yet recognised in this country, but he was of opinion that anyone who had passed any of the qualifying examinations of the pharmacy boards of Australia would be able to hold his own at the Minor here. Recently he (Mr. Clayton) had been privileged to watch the examinations in progress at Bloomsbury Square, and he had also called on several English chemists and introduced himself. He had been very kindly received, and he could promise the heartiest of welcomes to any English chemist who visited Australia. There are five pharmacy boards in the Commonwealth, all formed by British chemists in the early days. On every board at the present day there are some English chemists. At one time the boards, of course, consisted entirely of English chemists. A conference of chemists is to be held in Adelaide next year. There are about 1,000 chemists in Australia, 200 being on the roll in South Australia. Of these, thirty to fifty are men who have qualified in Great Britain. The standard of Australian pharmacy is gradually rising. At the present time the school in Adelaide is connected with Adelaide University, so that pharmacy students have the advantage of tuition under doctors of science and Major men, and have every chance of securing a good pharmaceutical education. He thanked the Conference heartily for the hearty reception he had received so far. (Laughter.)

Mr. W. Grice objected to his friend Mr. Moore and himself being alluded to as strangers to the Conference. He (Mr. Grice) had the honour of being local secretary for Bengal. Birmingham is his *habitat*, and he was present at the last meeting of the Conference in Birmingham.

Mr. Moore, who is chemist to the Tea-planters' Association in Assam, said members who attended the meetings of the Conference annually could not understand with what keen anticipation their *confrères* abroad looked forward to visits to the Conference. He thanked the President for the kind welcome accorded to him.

Mr. McJannet was not present in the room when the President called upon him, and the Conference then went on to the reading of the papers.

It was now five minutes past twelve, and the President announced that three papers which were to have been placed before the Conference had been withdrawn by the authors, who wish to have further time to complete the investigations to which the papers refer. He then called upon Mr. Robert Wright to read two papers, as follows :

The Nitric-acid Process for the Determination of Strychnine.

By E. H. Farr, F.C.S., and R. Wright, F.C.S., Pharmaceutical Chemists.

The authors stated that the B.P. ferrocyanide process for determination of strychnine is, with modifications, accurate. The U.S.P. has adopted Keller's process as modified by Gordin, it depending upon the destruction of brucine in mixtures thereof with strychnine by nitric acid. This process has been adversely criticised by several English chemists, but the authors find that it is accurate, and they proved this by experimental results. The U.S.P. *modus operandi* is as follows :

> The mixed alkaloids are extracted and dissolved in 15 c.c. of sulphuric acid (3 per cent.), 3 c.c. of a cooled mixture of equal volumes of nitric acid (sp. gr. 1.4) and distilled water are added, and the whole set aside for exactly ten minutes. The mixture is then made alkaline, and extracted with chloroform.

The authors obtained the following results with this process, temperature being modified as stated :

> Strychnine *per se*: (1) Temperature normal; alkaloid taken 0.075, recovered 0.0745; taken 0.175, recovered 0.175; (2) Acid added at 50° C., taken 0.1125, recovered 0.1125; same again. (3) Mixture heated to 65° C. after adding acid, taken 0.092, recovered 0.0875; taken 0.159, recovered 0.155. (4) Mixture heated to 100° C. after adding acid, taken 0.0815, recovered 0.0755; taken 0.094, recovered 0.088.
>
> Brucine *per se*.—(1) Temperature normal, brucine taken 0.084, recovered 0.0767. (2) Mixture heated to 38° C. for ten minutes, taken 0.0767, recovered 0.0027. (3) Mixture heated to 50° C. for five minutes, taken 0.0907, recovered 0.0027. (4) Mixture heated to 50° C. for thirty minutes, taken 0.0847, recovered 0.0006; taken 0.074, recovered 0.0005.

The residues from brucine [except (1).—Editor] were alkaloidal, but gave neither the strychnine nor brucine reactions, so a third alkaloid may be present in brucine :

Experiments on the Mixed Alkaloids.

	Strychnine Taken.	Brucine Taken.	Strychnine Recovered.
(1)	0.037	0.142	0.037
(2)	0.066	0.089	0.0657
(3)	0.047	0.198	0.048
(4)	0.112	0.105	0.1115

These experiments are quite sufficient to prove that the U.S.P. process, if carefully worked, gives accurate results under simple conditions. The exact details of the process as the authors applied it are as follow :

> The total alkaloids obtained in the usual way from 5 c.c. of the liquid extract, or 25 c.c. of the tincture, are dissolved by the heat of a water-bath in 15 c.c. 3-per-cent. sulphuric acid, the temperature of the solution adjusted to 50° C., 3 c.c. of a mixture of equal volumes nitric acid (sp. gr. 1.42) and water added, and the mixture set aside for ten minutes. It is then transferred to a separator, 50 c.c. solution of potash, B.P., and 10 c.c. of chloroform added, and the mixture well shaken. After separation, the chloroform is run into a tared dish containing 3 c.c. amylic alcohol, and the agitation repeated with two further portions of 5 c.c. chloroform. The dish is placed in a current of warm air, to allow the chloroform to evaporate, and the final evaporation and drying completed over a water-bath.

The strychnine is sometimes obtained in fine perfectly white crystals, but is usually slightly tinted.

Standardised Powdered Alcoholic Extracts.

No. 5.—Extract of Nux Vomica.

By E. H. Farr, F.C.S., and R. Wright, F.C.S., Pharmaceutical Chemists.

This was a lengthy paper embodying the following sections : (1) Total alkaloids in nux vomica; (2) strychnine in nux vomica; (3) assay of nux vomica; (4) ratio of alkaloids to extractive; (5) experiments on menstrua; (6) liquid extract of nux vomica; (7) alkaloidal standards for nux vomica; (8) preparation of the standardised extract; (9) assay of the powdered extract; and (10) microscopic recognition of the powdered extract. These subject-headings indicate the final purpose of the research, but besides recording the authors' own work, the paper frequently referred to comparable published results by other workers. Reference was first made to the B.P. methods for making the extract and tincture. The 1867 one for the extract was to exhaust the powdered drug by boiling, with successive portions of rectified spirit, and evaporating. A weaker spirit was prescribed by the 1885 B.P., and the drug was percolated, the extract being standardised to 15 per cent. of total alkaloids. The 1898 B.P. prescribes a 1 in 1 liquid extract made with 70-per-cent. alcohol, and containing 1½ per cent. of strychnine.

Supplementary News.

42 Cannon Street, London, E.C.

Thursday, July 26, 1906, 2 P.M.

THE printing, binding, and distribution of this Summer Issue are absorbing so much of that important element, Time, that we are compelled to go to press with this Supplement earlier than usual. We subjoin as briefly as possible some news received from correspondents to-day, and the publisher wishes us to say that advertisements received after 2 P.M. for insertion in this Supplement will be put in next week.

* * *

THE USUAL ADVERTISEMENT of Messrs. Brett & Co., chemists' valuers and transfer-agents, Leicester, was inadvertently omitted from the last issue of this Supplement—a circumstance which we regret, as Messrs. Brett & Co. wish their advertisement to be in every issue.

* * *

MR. H. HAGUE, chemist and druggist, from Messrs. Clay & Abraham's, Liverpool, and Mr. G. Naylor (late of the "Square") have started business, under the style of Hague & Naylor, at 5 Albert Terrace, North Promenade, Blackpool.

* * *

MESSRS. FLORIAN J. HYAM & CO., 67 St. Mary Axe, London, E.C., have some lines in baby-soothers and perfume-sprays (good and cheap), about which they will be glad to send full particulars to *C. & D.* readers on application.

* * *

THE BRITISH LIQUOZONE CO., LTD., 60 Wilson Street, London, E.C., are conducting extensive advertising-plans for increasing the sales of their preparations, and invite chemists to apply for particulars.

* * *

MESSRS. THOMAS CHRISTY & CO., 4, 10, and 12 Old Swan Lane, London, E.C., have been appointed sole agents for the British Lycoform Co.

* * *

THE COAL-TAR COLOUR JUBILEE is being celebrated in London this week. The international character of the event was well shown at the meeting held at the Royal Institution, Albemarle Street, London, W., on Thursday. Professor R. Meldola was in the chair. The oil-painting of Sir William Perkin was formally presented, and a replica in plaster of the marble bust for the Chemical Society was on show. The Hofmann modal of the German Chemical Society was presented by Professor Emil Fischer, the Lavoisier medal of the Paris Chemical Society by Professor A. Haller, and the medal of the Mulhouse Industrial Society by Professor Haller. Congratulatory addresses were presented from numerous societies, and at the end Sir William Perkin made a short speech, which concluded: "Above all, I thank God, to whom I owe all, for all His goodness to me, and to Him ascribe all the praise." A few exhibits of historic interest were shown on the lecture table, including the first sample of benzin which Faraday prepared, and some of the first mauve dye made by Perkin. Sir William Perkin is to be entertained to dinner at the Hôtel Métropole this evening. He becomes host to-morrow, when the participators will join a garden-party at his house, near Harrow-on-the-Hill, in the afternoon; and in the evening a reception at the hall of the Leather-sellers' Company, of which body Sir William is a past Master.

* * *

MASON'S DRUG-STORES, with branches at Barnard Castle and Whitby, have closed their shop in Penrith, opened a little over twelve months ago.

* * *

MR. CHARLES JOHN EVERETT MUMBY, pharmaceutical chemist, son of the late Colonel C. Mumby, and a member of the firm of Messrs. C. Mumby & Co., mineral-water manufacturers, died at his residence, High Street, Gosport, on July 24. He was fifty-four years of age.

* * *

MR. WILLIAM TOOGOOD FROST, chemist and druggist, "Ingleville," Parson's Green, S.W., died there on Wednesday morning, July 25. Mr. Frost was in his seventy-sixth year, and was a highly esteemed pharmacist. Mr. J. F. Harrington is his executor.

* * *

THE LATE MR. JAS. LOFTHOUSE, chemist and druggist, Flectwood, Lancs, left estate valued at 4,013*l.* 1*s.* 6*d.* gross and 3,705*l.* 3*s.* 8*d.* net. During Mrs. Lofthouse's widowhood his business in Church Street is to be carried on under the management of his son Timothy, and his business in West Street under the management of his son Chas. Frederick, and after her death or remarriage each of the sons is to take the business in which he has been engaged.

* * *

MR. AND MRS. THOMAS BARCLAY'S RECEPTION to the members of the British Pharmaceutical Conference at the Botanic Gardens, Edgbaston, on Wednesday evening was a very brilliant affair, telegraphs our representative. Five thousand invitations had been issued, and over two thousand guests were present. They were received by Mr., Mrs., and the Misses Barclay, and included, besides the pharmacists, the principal members of the medical profession in Birmingham, the Pro-Vice-Chancellor and professors of the University, and the leading members of the City Council. Among the notables were the Lord Mayor and Lady Mayoress, Sir James and Lady Sawyer, Sir Hallewell and Lady Rogers, Sir Walter and Lady Fisher, Alderman F. C. Clayton, Alderman Bird (Coventry), Professor and Mrs. Frankland, and Dr. and Mrs. Saundby. The grounds were illuminated with seven thousand fairy-lamps and five hundred Chinese-lanterns, and the fireworks were voted marvellous. A set piece, "The Alchemist," specially arranged for by Mr. Barclay, was received with much approval. The display lasted till 10.30, after which a Cinderella dance, arranged by the Local Committee, began in one of the rooms at the gardens, and was continued until nearly midnight.

* * *

IN GLORIOUS WEATHER a party of 250 chemists and their lady friends, who attended the meeting of the British Pharmaceutical Conference at Birmingham, left the city on Thursday morning for Worcester, where they visited the porcelain-works and Cathedral, afterwards lunching in the Guildhall, the Mayor of Worcester being present. The party then went on to Malvern.

* * *

A CRICKET-MATCH between Burgoyne Burbidge's eleven and May & Baker's last Saturday resulted in favour of the former by 87 to 41.

* * *

MR. JAMES WILSON, chemist and druggist, Great Harwood, was the defendant in an action heard by Judge Hans Hamilton at the Blackburn County Court on Monday, July 23. Mr. Thomas Winnard, wheelwright, alleged that defendant had pulled down a wall dividing two houses in Blackburn Road owned by the respective parties, and had erected a scullery and bedroom on his house, thus diminishing the light which came into plaintiff's house. He claimed an injunction to restrain defendant, who replied that the plaintiff had no right to claim the light over defendant's land. The Judge postponed judgment, saying he would in the meantime look at the premises himself.

* * *

A DEED OF ARRANGEMENT between Mr. Frederick Paul Pembleton, chemist and druggist, Derby, and his creditors was executed on July 16, and filed on July 23. The liabilities amount to 2,681*l.*, and assets to 1,591*l.* Mr. J. N. Nutt, accountant, Derby, is trustee. The trade creditors include Gibbs, Ltd., London (25*l.*); Christys & Co., London (23*l.*); Anglo-American Optical Co., London (19*l.*); Lorimer & Co., London (20*l.*); Vee Dee Vibrators, Ltd., London (15*l.*); Bell & Co., London (10*l.*); Wyleys, Ltd., Coventry (35*l.*); Kinko Co., Ilford (32*l.*); Blyton, Astley & Co., Manchester (18*l.*).

College Notes.

METROPOLITAN COLLEGE OF PHARMACY.—Principal Sage has placed the College on the telephone (Metropolitan and Provincial), the number being 8651 Central. In our "English News" section this week we give an engraving of the College cricket team.

WHERE TO STUDY.

The following educational institutions are advertising in this issue:

Metropolitan College, 160 Kennington Park Road, S.E.
London College of Chemistry, 323 Clapham Road, S.W.
South London School, 325 Kennington Road, S.E.
School of Pharmacy, 17 Bloomsbury Square, W.C.
Westminster College, Trinity Square, Borough, S.E.
Northern College of Pharmacy, 100 and 102 Burlington Street, Manchester.
Leeds College of Pharmacy, Clarendon Road, Leeds.
West of Scotland School of Pharmacy, 157 St. Vincent Street, Glasgow.
Scottish Optical College, 157 St. Vincent Street, Glasgow.
Manchester College of Pharmacy, 225A and 227A Oxford Road, Manchester.
Glasgow School, 180 West Regent Street, Glasgow.

In Parliament.

A Continuation of "Westminster Wisdom" (p. 121).

POISONS AND PHARMACY BILL.

The second reading of this Bill has now been put down for Tuesday, October 23.

INDUSTRIAL ALCOHOL.

The Committee stage of the Revenue Bill came up for consideration in the House of Commons at 1.40 A.M. on Thursday, July 26. As on the second reading of the Bill, reported in last week's *C. & D.*, the debate was in a full House. The Chancellor of the Exchequer was in his place, with Mr. Reginald McKenna, the Financial Secretary to the Treasury, on his right, and Mr. Wedgwood Benn on the bench immediately behind. Mr. Claude Hay was again present, though he had no serious opposition to offer to the progress of the Bill, and neither had Mr. Harmood Banner anything to say against it. On the Chairman putting Clause 1 to the House, Mr. McKenna moved his Amendment on Clause 1, which would make it read as follows (new portion in italics) :

1. (1) Where any spirits are used by an authorised methylator for making industrial methylated spirits, or are received by any person for use in any art or manufacture under Section 8 of the Finance Act, 1902, the like allowance shall be paid *to the authorised methylator or to the person by whom the spirits are received, as the case may be*, in respect of those spirits as is payable on the exportation of plain English spirits, and the Commissioners may by regulations prescribe the time and manner of payment of the allowance and the proof to be given that the spirits have been or are to be used as aforesaid.

Lord Turnour rose to appeal to the Government not to go on with the Bill that night, at any rate he hoped that no more measures would be taken after the Revenue Bill had been disposed of. He begged to move to report progress.

Mr George Whiteley, the Chief Government Whip, rose in response and said : Of course, we are very much obliged to the noble Lord for the assistance he has given us, but we ask for just a small extension of that assistance and that he should let this Bill go through Committee. The Revenue Bill is entirely unopposed, and the Crown Lands Bill, which follows, is in the same happy position. If the House, Mr. Whiteley proceeded, would let these two Bills be proceeded with, that would be all the business which he would ask members to take, and he would therefore ask Lord Turnour to withdraw his motion.

Lord Turnour, in view of Mr. Whiteley's "kind assurance," thereupon withdrew his motion.

On Mr. McKenna's amendment being again mentioned by the Chairman,

Mr. Watson Rutherford rose and said : I should like to ask a simple question, in order to understand exactly what this amendment implies. What is the amount at present allowed on alcohol exported ?

Mr. McKenna : Threepence per gallon.

Mr. Rutherford : And there is a duty of 11*s*.

Mr. McKenna assented.

The amendment was then agreed to without a division.

Mr. Watson Rutherford rose again and remarked that this was an exceedingly important matter, the amount of spirit which it affected being about a quarter-of-a-million gallons. He pointed out that the clause would be very much more satisfactory in regard to spirits that were going to be used in the arts and manufactures if the whole amount of the duty were returned. (Hear, hear.) If the amount of duty which was allowed upon British spirit exported was equal to the duty, then of course the effect of the clause would be as he had stated. But if the duty allowed on export was threepence a gallon, and if the duty on spirits was eleven shillings—which he had understood from his hon. friend the Financial Secretary to the Treasury—it was perfectly obvious that the spirits that were going to be used in future in the arts and sciences would still remain untaxed.

At this point Mr. Asquith rose to correct the statement, but although assailed by vociferous cries of "Order" from all parts of the House, Mr. Rutherford did not afford the Chancellor of the Exchequer an opportunity of making the statement he desired. Mr. Asquith, therefore, had no alternative but to resume his seat.

Mr. Rutherford, proceeding with his speech amid constant interruptions, said : This clause, which is now under discussion, applies to 270,386 gals. of spirits—(great disorder)—and the whole matter has been dealt with by a Departmental Committee, which was appointed by the then Chancellor of the Exchequer—(An Hon. Member : Which Chancellor of the Exchequer ?)—and one of the first recommendations of that Committee was that an allowance should be granted to all industrial spirit at a rate from time to time obtaining on the allowance on British spirit for export. Now the question he asked was what was the amount of drawback of duty allowed to British spirit on export, and Mr. McKenna had replied, "Threepence per gallon." Now the duty upon it was eleven shillings.

The cries of "Order" continuing to punctuate Mr. Rutherford's speech,

Mr. John O'Connor rose from the Irish Nationalist benches, and, addressing the Chairman (Mr. Alfred Emmott) "on a point of order," said he should like to know whether there was any other means of teaching gentlemen of that House the courtesies of debate besides those of shouting, because he had witnessed "a very bad exhibition."

The Chairman remarked that that was not a point of order.

An Hon. Member : "Try courtesy on the Irish benches first."

Mr. Rutherford, continuing, said : If I were allowed to continue my sentence I should not object to any amount of reasonable interruption, but it is exceedingly difficult ——

Mr. John O'Connor rose again with the interjection that, wishing to make his position clear, he desired to say that the discourtesy he complained of came from his own side of the House.

Mr. Rutherford, resuming amid continued cries of various kinds emanating chiefly from the Ministerial benches opposite, said he though they ought to have an explanation about a clause of this kind and importance. We ought to be told, he continued, what is the amount of duty that is at present charged upon these spirits ; we ought to be told the amount of drawback that is allowed when the spirits are exported, and we ought to be told what is the meaning of this section, and what the effect of it would be before it is put to this House. At this time of night, and in a most important matter of this kind, we are entitled to the information which we wish.

Mr. Asquith, rising at length amidst considerable cheering, spoke with some warmth. The Chancellor of the Exchequer said : Perhaps the hon. gentleman (Mr. Rutherford) will allow me the courtesy which is always shown to any Minister of intervening in debate for the purpose of making an explanation, and correcting a most ignorant misapprehension. (Hear, hear.) In rising to address the House on a very technical matter of this kind, the hon. member has not taken the trouble to acquaint himself with the existing state of the Statute Law, for had he done so it would have been unnecessary for me to tell him that this alcohol comes in duty free under existing legislation.

Mr. Rutherford attempted to rise and make a rejoinder at this point, but was prevented from doing so by loud cries of "Order, order," from the Ministerial benches.

Mr. Asquith remarked that he was certainly not going to give way to the hon. member. Proceeding, he said : The whole effect of this clause is to give effect to the recommendations of the Departmental Committee appointed by the late Government. The whole object of the clause is to give effect to those recommendations, and to free a very important British industry from this charge of threepence which at present it has to suffer owing to Excise restrictions, to put it into a position to compete with our foreign competitors in this and other markets in this most important branch of industry. Alcohol comes in from abroad duty free, and the whole object of this clause is to enable it to compete on fair treatment with foreign countries—a principle for which hon. gentlemen opposite have so frequently contended—by giving it a drawback of threepence. It is an absolutely non-contentious provision. It is founded on the report of the Departmental Committee, and is taken from a Bill which the hon. member's (Mr. Rutherford's) leaders introduced.

Mr. Wm. Redmond having taken up the good-natured banter to which Lord Turnour had been subjected a few minutes earlier, and the noble Lord having replied in an equally humorous vein, the various clauses of the Revenue Bill were put *seriatim* to the House by Mr. Emmott, no amendments, other than that of Mr. McKenna to clause 1, being made. Mr. Tim Healy, who had put down an amendment to change "like allowance" to "bounty of threepence" was not present, and his amendment was therefore passed over. Mr. Emmott then moved that he should report this Bill as amended to the House, which was agreed to without a division. It being now two o'clock on Thursday morning, the Crown Lands Bill was hastily run through, and, no further business being taken, in accordance with Mr. Whiteley's promise, the House adjourned.

REMOVALS FROM THE MEDICAL REGISTER.

Mr. Bowles has addressed a question to the Home Secretary calling his attention to the case of Dr. J. T. Bawden, whose name was recently removed from the medical register on the ground of infamous conduct in a professional respect, and asking whether, in view of the absence of appeal or other remedy to the victims of the General Medical Council's judgments, he is prepared to introduce legislation limiting the powers of the Council to bringing such cases before a Divisional Court.

"PHARAOH'S SERPENT EGGS."

Mr. Richardson, the Labour member for South Nottingham, asked the Home Secretary on Wednesday if his attention had been called to the fact that on June 19, Leslie Whitby, four years of age, of Hyson Green, Nottingham, died as the result of eating a poisonous compound known as Pharaoh's serpent eggs, which was made to ignite, and not to eat, and that a verdict of manslaughter was returned by the Coroner's jury against Charles Hunt, Birkin Avenue, Nottingham, for selling them; and whether, seeing that Charles Hunt sold them not knowing of their poisonous nature, he would take such measures as would ensure the poisonous nature of all such articles being labelled, and by whom manufactured, so as to prevent similar fatalities.—Mr. Herbert Gladstone replied:

> My attention has been drawn to this case, which is now *sub judice*. I am informed that mercuric sulphocyanide, which enters into the composition of these articles, is a poison, and can legally be sold only by chemists. As regards my hon. friend's suggestions for the better regulation of the sale of poisons, I may point out that it is proposed to deal with this matter by regulations made under Section 2, Sub-section (3) of the Poisons and Pharmacy Bill, which is now before Parliament.

The Sub-section of Lord Crewe's Bill to which the Home Secretary refers stipulates:

> (3) His Majesty may, by Order in Council, make regulations as to (*a*) the granting of licences under this section and the local authorities by which such licences may be granted; and (*b*) the duration, renewal, revocation, suspension, extent, and reproduction of such licences; and (*c*) the keeping, inspection, and copying of registers of licences; and (*d*) the fees to be charged for licences and for inspection and copying of registers; and (*e*) the keeping, transporting, and selling of the poisonous substances to which this section applies; and generally for the purposes of carrying this section into effect.

INCOME-TAX.

Mr. Field asked the Chancellor of the Exchequer if he would arrange that the non-assessment (total or partial) to income-tax of limited-liability, joint-stock, Civil Service, Army and Navy, and co-operative societies will be considered by the Income-tax Committee now sitting; and Mr. Asquith replied that the Committee will be in a position to report on the matters very shortly, but the question seems to have been dealt with quite fully in the Report of the Ritchie Committee, and Mr. Asquith is satisfied with their conclusions.

THE EXPORTS OF RED GINSENG (whole and beard) from Corea during 1905 amounted to 107,485 lb. (112,351*l.*), against 46,851 lb. (100,060*l.*) during 1904. The shipments were absorbed by China, and the difference in values given above was due to the large export of "beard" in 1905. Ginseng is a Government monopoly in Corea.

Thursday's Markets.

UP to the hour of 'Chango there had been no important alterations in the markets, but there are several articles on the upward trend. *Lemon oil* continues to rise in Sicily, and the new crop is meeting with a good demand for shipment later in the year; from 3*s.* 10*d.* per lb., c.i.f., and upwards is quoted. West Indian distilled *Oil of Limes* is firmly held at 3*s.* 6*d.* per lb., at which business has been done. *Peppermint oil* closes quiet, with sellers of good brands of Wayne County at from 12*s.* 6*d.* to 12*s.* 9*d.* per lb., c.i.f., and 12*s.* 6*d.* on the spot, while sellers of Japanese dementholised hold out for 5*s.* 3*d.* Some business has been done in *Menthol* on the spot at 8*s.* 4½*d.* to 8*s.* 6*d.* for Kobayashi, and 8*s.* 3*d.* for so-called "outside" brands; and for August-September shipment a sale of 50 cases is reported at 8*s.* 9*d.*, c.i.f. *Castor oil* is firm at 31*l.* 10*s.* per ton for medicinal quality of Hull make for prompt and to December delivery, first pressing being quoted at 29*l.*, and for second pressing for August-December delivery the price is 27*l.* 10*s.* per ton, barrels included, delivered free ex wharf, London. Further spot sales of crude Amey *Camphor* have been made at 330*s.* per cwt., and among articles which are quoted very firm from New York to-day are cascara sagrada and Curaçao aloes. It it also said that for the first time in many years the New York stock of Honduras *Sarsaparilla* in importers' hands is entirely exhausted. New Russian *Cantharides* are offering in London in one quarter at slightly easier rates than last week—viz., 4*s.* 1*d.* to 4*s.* 3*d.* per lb., c.i.f. Russian *Ergot* is steady on the spot at from 1*s.* 1*d.* to 1*s.* 2*d.*, and 1*s.* 1*d.* c.i.f. terms. It is possible the agrarian troubles in Russia may delay the shipments of produce from the interior, but what effect the uprisings will have upon prices it is impossible at the moment to say. It is still difficult to obtain supplies of *Oxalic acid* on the spot, and makers are firmer at 3¾*d.* per lb. net, delivered free London. *Ferri et ammon. cit.* has been advanced ½*d.* per lb. in consequence of the rise in citric acid, makers now quoting 1*s.* 7*d.* to 1*s.* 7½*d.*, the lower price being for 1-cwt. quantities. *Agar agar* is dearer at 1*s.* 6*d.* per lb. spot for No. 1 quality, and 1*s.* 2*d.* for No. 2. Spot stocks are now getting low, and prospects point to a further advance. The article appears to be coming into greater consumption in this country. *Soy* is firm at 1*s.* 10*d.* per gal., duty paid, for good thick. At auction to-day 121 bags Senegal gum sold without reserve for underwriter's account at from 19*s.* to 23*s.* per cwt. *Galls* are firm at 82*s.* 6*d.* per cwt. spot for good blue Persian, and may probably be dearer. The price of good Turkey *Coloeynth* pulp is now 2*s.* 3*d.* per lb. *Tamarinds* are dear, holders of good Barbados asking 18*s.* per cwt. in bond. In London the *Opium* market remains fairly strong, but business this week has been much smaller—at full prices—however. Good druggists'-opium can be had at from 8*s.* 9*d.* to 9*s.* per lb., and in soft shipping there is little doing, holders asking 11*s.* 6*d.* per lb. for fine. Considerable sales of Persian have lately been made at lower prices—viz., 10*s.* 9*d.*—but 11*s.* to 11*s.* 6*d.* is now wanted for fine. Among alkaloids, *Morphine* is firm at the advance noted in our Trade Report, and if the price of opium should be maintained a further advance in the alkaloid is not unlikely. Makers of *Codeine* are not sellers at the moment, as an advance has been practically decided upon, but not yet officially announced. It is reported that a better understanding has been arrived at with the "outside" maker, on whose account prices during the first half of the year were reduced several times. An advance in *Strychnine* has also been mooted, but competition is extremely severe, and this at the moment prevents its crystallisation. The price is now very low, and an eventual advance would not be surprising. *Scammony-root* is firm at 20*s.* per cwt., spot terms. *Bromides* are dull in consequence of the unsettled feeling in the United States.

Cablegrams.

HAMBURG, July 26:—Citric acid and cumin-seed are dearer. Ipecacuanha, peppermint oil, and menthol are steady.

SMYRNA, July 26, 2.20 P.M.:—Sales of 450 cases of opium have been made to speculative buyers (Japan and Continent) at 8*s.* 6*d.*, f.o.b. The market is quiet, but strong.

NEW YORK, July 26:—Business in drugs is light. Opium has advanced to $3.10 per lb. for druggists' by single cases. Cascara sagrada is firm at 6c., and aloin has been advanced to 60c. per lb. Rio ipecac. is firmer at $1.85, and Cartagena is also firmer at $1.75. Ceylon citronella oil is easier at 40c. per lb., and balsam copaiba is firm at 30c. per lb. for Central American.

German Drug-market.

Hamburg, July 24.

Business in drugs is quiet at the moment.

AGAR AGAR is firm, prime offering at 315m. per 100 kilos.

CITRIC ACID is tending firmer, 330m. per 100 kilos. being asked; 327½m. net cash has been paid.

CAMPHOR.—Refined is very firm at 870m. per 100 kilos.

CANTHARIDES are easier at 9¼m. per kilo.

CORIANDER.—Mogador is steady at 31m. to 32m. per 100 kilos.

CUMIN-SEED is firm at 68m. per 100 kilos. for Malta.

CARAWAY-SEED is tending upwards at 51½m. per 100 kilos. for new crop.

CARNAUBA WAX is steady at from 315m. to 400m. per 100 kilos., according to quality.

ERGOT is firm at 240m. per 100 kilos.

FENUGREEK is firmer, Indian being quoted at 19m. and Morocco at 21m. per 100 kilos.

GALANGAL is quoted 42½m. per 100 kilos., duty paid.

GOLDEN SEAL is offered at 14¾m. per kilo.

IPECACUANHA is very firm, Cartagena offering at 16m. per kilo., and for Rio 16½m. to 17m. per kilo. is asked.

LYCOPODIUM in cases is quoted 425m. per 100 kilos., and 415m. in bags.

JAPAN WAX is steady at 106m. per 100 kilos.

MENTHOL is quoted 18¾m. per kilo.

SENEGA is easier at 535m. per 100 kilos.

STAR-ANISEED is firm at 162m. per 100 kilos.

OILS (FIXED).—Castor is unchanged at 57m. per 100 kilos. for first pressing in barrels. Cod-liver oil is quoted 70m. per barrel. Chinese Wood is quiet on the spot at 60m. per 100 kilos., for non-congealing. Palm-kernel is advancing, 58m. per 100 kilos. being asked to-day.

OILS (ESSENTIAL).—Peppermint is steady, H.G.H. offering at 14¾m. per lb., and Japanese at 11¼m. per kilo. Star-aniseed is quoted 12m. per kilo., and cassia 7.60m. per kilo.

American Drug-market.

New York, July 17.

Business is seasonably dull, and there is little activity in any line. Several American articles are in an interesting position, and while there is some speculative inquiry, most dealers are awaiting the course of events.

ALOES.—Curaçao has sold at 6½c., and the market is now firm, with 6½c. asked.

BEESWAX is in light demand, but the market is firm owing to scarcity of good quality. For ordinary pure 33c. to 34c. is asked.

BALSAM COPAIBA is active, but values are unchanged at 30c. for prime Central American, and 40c. for Para.

BROMIDES have been offered at a slight concession, and a general reduction would not cause surprise. At present potash is offered at 16c.

CITRIC ACID is in active inquiry, and prices have advanced to 45c.

BUCHU-LEAVES have been moving freely, and none are now offered below 20c., while for prime green up to 22c. has been paid.

CASCARA SAGRADA is somewhat unsettled, and 1905 bark has been offered at 6c., though most holders ask 6½c. No new crop has yet been offered.

ERGOT is inactive, but prices are firmer in sympathy with conditions abroad. The general quotation for Russian is 27c., but 26c. will buy.

GOLDEN SEAL (HYDRASTIS) is firmly held on the spot at $1.35 to $1.40. Small lots are offering from growing points at $1.25.

GUARANA.—Stocks are well concentrated, and $1.25 is asked for spot goods.

JAPAN WAX is in fair demand at 12c.

PEPPERMINT OIL.—Spot stocks are held at $3.00 for bulk and $3.40 for H.G.H. New crop has been offered in advance at $3.15 to $3.50.

OPIUM is without demand, but foreign advices are responsible for an advance to $2.95.

QUININE.—Some demand is evident, but the market is dull and unchanged at the recent decline.

IPECAC.—Rio is firmer at $1.80, and Cartagena at $1.70.

SARSAPARILLA is moving freely at 10¼c. to 10½c.

SENEGA.—The outlook is for a firmer market. New crop is offering in the North-West at 45c.

Zanzibar Cloves and Chillies.

The British Vice-Consul at Zanzibar in his annual report states that the 1904-5 season's crop of cloves was the largest of which any official record exists, amounting to 227,178 cwt. (755,543 frasilas). The island of Pemba produced the greater part—675,683 frasilas, against 79,860 frasilas from Zanzibar. The following season (1905-6) was a poor one for Pemba, but Zanzibar furnished more than an average crop. Of the total value of 287,073*l.* exported in 1905, the United Kingdom received 54,709*l.* (1904, 119,913*l.*), British India 132,236*l.* (1904, 98,454*l.*), and America 32,735*l.* (1904, 47,651*l.*), the remainder being divided among the Netherlands, Germany, France, and Austria-Hungary. Considerable harm has been done to the local market for Zanzibar chillies by certain merchants who have made a practice of mixing them with an inferior kind which are grown in Uganda and British East Africa, and brought to Zanzibar by them for this purpose. Thus, though the statistics show an increase in export, no less than seven-sixteenths of the total were first imported from those countries, and there is a considerable decrease in the real output of Zanzibar. The Director of Agriculture is of opinion that at least four or five times the present crop might be raised locally, and attributes the falling-off, which first became evident in 1899, partly to the cost of picking and partly to the prohibition by the Government of the laying of arsenic, by which means the natives were, up till then, in the habit of destroying the wild pigs, which play great havoc with native crops. 7,118*l.*, out of a total of 9,014*l.* exported, went to America, and the prices realised averaged 7*s.* per frasila of 35 lb., equal to 1*l.* 2*s.* 4*d.* per cwt.

Arrivals.

Among the arrivals of drugs, chemicals, etc., at the principal ports of the United Kingdom from July 13 to 19 are the following: *Albumen* (@ Marseilles), 10; *aloes* (@ Bombay), 30 pkgs.; *ambergris* (@ Hong-Kong), 2 cs.; *argol* (@ Cape Town), 15; *arsenic*, (@ Oporto) 61, (@ Melbourne) 28; *benzoin* (@ Singapore), 275 cs.; *bleaching-powder* (@ Cologne), 3,025; *boric acid* (@ Leghorn), 83; *bromine* (@ Hamburg), 40 cs.; *calumba* (@ Hamburg), 99! *camphor* (@ Havre), 86 cs., (@ Marseilles) 11 cs.; *cardamoms* (@ Colombo), 219; *castor oil*, (@ Leghorn) 22 bxs., (@ Calcutta) 900 cs.; *chaulmoogra oil* (@ Calcutta), 5; *cinchona* (@ Colombo), 16; *cloves* (@ Hamburg), 300; *coca leaves* (@ Ceylon), 4; *cod-liver oil*, (@ Bergen) 114, (@ Aalesund) 109; *colocynth* (@ Havre), 4; *coriander* (@ Marseilles), 133; *cream of tartar* (@ Bordeaux), 77; *cubebs* (@ Amsterdam), 45; *dragon's-blood* (@ Bombay) 12; *eucalyptus oil* (@ Melbourne), 214 cs.; *essential oils* (@ Messina), 12 cs.; *galls*, (@ Persia) 100, (@ China) 161, (@ Bombay) 131; *gentian* (@ Marseilles), 22 bls.; *gentian powder* (@ Marseilles), 10 bls.; *gum, unenumerated* (@ Persia), 56; *ginger*, (@ Jamaica) 181, (@ Havre) 854, (@ Bombay) 330; *gum arabic* (@ Bombay), 336; *honey* (@ Jamaica), 153; *hellebore powder* (@ Marseilles), 20; *honey* (@ Valparaiso), 85 cs.; *lime-juice* (@ Jamaica), 20 pkgs.; *menthol* (*via* Havre) 30; *nux vomica* (@ Bombay) 100; *olibanum* (@ Bombay), 383; *opium*, (@ Marseilles) 32, (@ Bushire) 36, (@ Havre) 26; *peppermint oil* (*via* Havre), 20 cs.; *phosphorus* (@ Montreal), 160 cs.; *pimento* (@ Valencia), 141 cs.; *potashes* (@ Montreal), 17; *quicksilver* (@ Seville), 5,000 flks.; *quillaia* (@ Valparaiso), 655; *roots, barks, etc.* (@ New York), 65; *sarsaparilla* (*via* Hamburg) 50 bls., (@ Jamaica) 5; *senna*, (@ Alexandria to Liverpool) 227 bls., (@ Suez) 31; *soda ash* (@ Montreal), 896; *tamarinds* (@ Barbados), 85; *tartar* (@ Barcelona), 86; *tartaric acid* (@ Bari), 42; *thorianite* (@ Colombo), 7 bxs.; *thyme-leaves*, 25; *turmeric* (@ Bombay), 65; *vanilla* (*via* Sydney), 14 cs.; *wax, bees'*, (@ Tamatave), 29, (@ W.C. Africa) 20, (@ Bombay) 31 cs., (@ Jamaica) 5; *wood oil* (@ Shanghai), 95.

THE exports of beeswax from Madagascar during 1905 amounted in value to 27,282*l.*, against 22,241*l.*, an increase of 5,041*l.*

THE exports of sponges from Cyprus during 1904 amounted to 429 okes, valued at 971*l.*, against 628 okes, valued at 662*l.*, during 1903.

CREOSOTE OIL from the United Kingdom now goes to New Orleans in tank steamers, instead of in barrels as heretofore. Some 1,676,033 gals., valued at 17,260*l.*, was imported last year.

IN 1905 the imports of drugs from the United Kingdom into Bermuda amounted in value to 2,129*l.*, against 2,635*l.* in 1904; from the United States 5,254*l.* worth was imported, or 520*l.* less than in the previous year.

SALE OF SHARES.—On July 26, at the Southwark County Court, Philip M. Butlin, a solicitor, of North Chase, Kenilworth, applied to Mr. E. Layman, sitting as Deputy Judge, for an order to sell the interest of Charles J. Fauvel, a chemist, and a director of a public company, of 13 Borough High Street, S.E., in five founders' shares and 275 preference shares of Vegox, Ltd., in order to meet a sum of 33*l.* 6*s.* 7*d.* due by Fauvel to the plaintiff, and in respect of which a charging order had been made by Mr. Justice Phillimore. The plaintiff obtained judgment in the King's Bench Division in September last against Fauvel, and, on his application, a charging order was made on the interest in the shares. Such an order, however, merely gives a lien on the shares, and, the debt not having been satisfied, application was now made for power to sell the shares. The plaintiff formally proved, in the absence of Fauvel, that nothing had been paid since the judgment, and that he had had notice of the charge, and also that the present summons was served upon him. His Honour made an order for the sale of the shares in accordance with the charging order, and costs, the person appointed to sell to be agreed between the plaintiff's London agents and the Registrar of the Court.

(1) According to Dunstan and Short, Bombay nux vomica contains an average of 3.53 per cent. of alkaloids, Cochin 3.32, Madras 2.94, and Ceylon from 4.4 to 5.3. Commercial powdered nux vomica has been found by the authors to yield from 2.48 to 2.97 per cent., with an average of 2.8. They quoted figures given by Kremel, Beckhurts, Keller, Landon, and Andrews.

(2) Strychnine exists in nux vomica in smaller proportion than brucine. The authors, working on seven samples of seeds, found an average of 1.23 per cent. of strychnine and 1.55 of brucine. In one case only was the strychnine higher—namely, 1.5 to 1.44. The seeds of *Strychnos Ignatia* show the reverse condition, a sample examined by the authors yielding 1.75 per cent. of strychnine and 0.95 of brucine. Other workers have generally obtained allied results, F. Ransom being the exception, his proportions being equal. The authors did not agree with John C. Umney's recommendation to make the standard for nux vomica 2 to 2½ per cent. of total alkaloids with one-half strychnine, their objection being to the double standard, but they said "it would perhaps be preferable to fix a strychnine standard both for nux vomica and its preparations, which should include the brucine, expressed, if possible, in terms of strychnine."

(3) Reviewing Dunstan and Short's, Bird's, Keller's, and another process for assaying nux vomica, the authors gave preference to Keller's (menstruum ether 4 vols., chloroform 3 vols., and amylic alcohol 1 vol.), or one in which the powdered drug is exhausted by percolation with a mixture of chloroform 2 vols., ether 6 vols., and ammoniated alcohol 1 vol. For the bulked percolates alkaloids are shaken out with dilute sulphuric acid in excess.

(4) The ratio of alkaloids to extractive has been found by the authors to be 13.2—14.1 alkaloids with 86.8—85.9 dry extractive. Dunstan and Short's average was 17.3 per cent. of alkaloids. The authors recorded the results from fresh experiments. They exhausted 1,500 grams of the drug in No. 40 powder by re-percolation (4 percolators). The percolate from the last percolator was collected in six fractions, each consisting of 750 c.c. In each of these fractions the proportions of dry extract, total alkaloids, and strychnine were determined, and the results are set out in percentages in the following table :

Fraction	Dry Extract	Total Alkaloids	Strychnine	Brucine by Difference
1	10 02	1.560	0.780	0.780
2	3.38	0.440	0 180	0.260
3	2 88	0.292	0.148	0 144
4	1.26	0 080	0.044	0.036
5	0.50	0 032	0.020	0.012
6	0.50	0.024	0.014	0.010

The totals from the different fractions indicate 13.1 per cent. total alkaloids in the dry extract. The authors have previously shown that in percolating nux vomica the first 1 in 1 percolate contains 80 per cent. of alkaloids. [The figures in the above table refer to a re-percolate, we understand, hence are not comparable.—Editor.]

(5) The experiments with menstrua were made by percolating in each case 100 grams of the powdered drug [?No. 40] with 400 c.c. of the liquid. The drugs used contained from 2.48 to 2.97 per cent. of alkaloids. With that which contained 2.94 per cent. (1.5 strychnine) the following were the results in percentages :

Percolate Yielded	Alcohol per cent.			
	90	80	70	60
Dry extract	1.94	3 12	3.6	3 7
Total alkaloids	0.292	0.548	0 588	0.644
Strychniue	0 144	0.26	0.264	0.296
Bruciue...	0 148	0.288	0.324	0.348
Strychnine in dry extract ...	7.42	8.33	7.33	8

The 60-per-cent. alcohol percolates slowly and the percolate is not clear, being thus inferior to the 70 and 80 per cent. Altogether the results show that where a sample of nux vomica of good quality is taken no difficulty whatever is experienced in preparing a dry extract containing 5 per cent. strychnine. The drug used must contain at least 1 per cent. of strychnine; it is better, in fact, if it contain 1.25 per cent. or more.

(6) Liquid extract of nux vomica, B.P. 1898, has given trouble because it contains fat, and more drug is required than formerly to get a preparation of proper standard. The trouble arises from the mistake of the B.P. compilers in adapting the strength of the preparation to the system of doses adopted to suit the memories of prescribers. The authors illustrated the difficulty of making the liquid extract by the following example :

A batch of the liquid extract was prepared from a commercial sample of the drug strictly according to the official formula. The finished product contained 2.46 per cent. total alkaloids, of which 1.10 per cent. was strychnine and 1.36 per cent. brucine. It yielded 13.7 per cent. dry extract w/v, containing 8.03 per cent. strychnine.

A further batch was prepared from a second sample of drug, but for the normal quantity of the preparation just twice the specified amount of the drug was taken, the product being to all intents and purposes a 2 in 1 preparation. This contained 2.97 per cent. of total alkaloids, of which 1.74 per cent. was strychnine and 1.23 per cent. brucine. It yielded 24.25 per cent. of dry extract, containing 12.24 per cent. total alkaloids and 7.17 per cent. strychnine.

(7) Discussing the alkaloidal standards for nux vomica, the authors said that one of the clearest indications of the progress of pharmacy during the present generation has been the movement in favour of standardisation. In the case of drugs which owe their activity to alkaloids, it is now generally recognised that a standard of total alkaloids affords in most instances a fairly accurate measure of their clinical value. In the fixing of the standards for nux vomica is it safe to treat the brucine present as *une quantité négligeable*? Granted that its physiological potency is relatively small in comparison with that of strychnine, it is by no means inert, and is always present in nux vomica and its preparations in a proportion sufficiently large to exert a considerable influence upon their therapeutic effect. The authors therefore asked, Why should not the brucine be calculated into terms of strychnine and a strychnine standard be established upon the dual basis?

(8) As to the preparation of the standardised extract the authors recommended the following process :

Take

Nux vomica in No. 20 powder ... any convenient quantity
Hard paraffin ... ... } of each a sufficiency
Alcohol (70-per-cent.) ... ... }

Moisten the powder with one-fourth its volume of the menstruum, set aside for six hours, pack in a conical percolator, pour more menstruum over the marc, and allow percolation to proceed slowly but continuously until a volume of percolate has been collected equal to three times the bulk of the powder taken w/v. Express the marc, and add the pressings to the percolate. Recover the alcohol by distillation, transfer the residual liquid to a suitable bottle, rinse the still out with hot water, adding the rinsings to the other liquid. Introduce into the bottle a quantity of paraffin wax equal to 5 per cent. the volume of the liquid, raise the temperature by standing the bottle in hot water until the wax is completely melted, and, maintaining the mixture at this temperature, shake well and frequently during half-an-hour. Pour the mixture into an evaporating-dish, and allow to stand until the wax has completely separated from the liquid and formed a cake upon the surface. Break through the latter, and run off the clear liquid; then melt down the wax, add a little hot water, mix well, and set aside till cold. Recover the washings and add to the bulk of the liquid extract. The dry extract, total alkaloids, and strychnine in the latter are then determined, and from the data obtained the whole of the reserved liquid is converted into a powdered extract containing 5 per cent. of strychnine, by the addition either of milk sugar or a standard powdered nux vomica, the evaporation being conducted over a water-bath. The product is to be preserved in well-corked or glass-stoppered containers.

(9) In the assay of the powdered extract, Keller's process is to be preferred, strychnine being determined by the nitric-acid process.

(10) In cases where powdered nux vomica has been employed as diluent the powder may easily be identified by the

histological features of the latter, especially by the large proportion of fragments of hair from the seed-coat, which are very characteristic.

Discussion.

The President said the papers of Messrs. Farr and Wright were, as usual, of an eminently practical character. There were many present who were qualified to discuss the subjects dealt with, and he hoped they would take the opportunity now offered.

Mr. D. B. Dott, speaking on the question of assaying nux-vomica extract, said he and his assistants had found that the process advocated by Messrs. Farr and Wright was much more easily carried out than the B.P. one, and the results obtained were very accurate. He thought the new process should be adopted. Where the strength of the extract varied, however, from the official strength, he found that it was better to take such a proportion of the extract as would give, approximately, the amount of alkaloid in the official extract. He did not agree with the idea of standardising extracts with powdered drugs. He would suggest that sugar of milk or some other suitable and soluble diluent be used rather than the drug itself.

Mr. John C. Umney, speaking as to the ignoring of brucine in the estimation of the drug, asked whether Mr. Wright knew of any published results that would show that the brucine content ought to be taken into account. If, as stated, brucine was only present in the nitric-acid residue to the extent of $\frac{1}{30}$th as compared with strychnine, then it did not matter at all, as that would mean 0.04 per cent. only and within the limit of experimental chemical error. He would like to know if Mr. Wright had any definite physiological experience to go upon in suggesting that both brucine and strychnine should be assayed. With regard to the removal of fat, he knew of no better process than that described by himself some years ago. He thought the use of the powdered drug in the case of nux vomica was distinctly objectionable.

Mr. E. W. Mann said Messrs. Farr and Wright ought, in his opinion, to take more credit to themselves for the modified process for the determination of strychnine. His experience of the U.S.P. process was that it was absolutely useless; but no doubt, with the modifications recommended by the authors, better results could be obtained. He asked about the keeping properties of the extract.

Mr. Alcock, speaking in regard to fat in nux-vomica extract, said he did not agree as to the use of paraffin for defatting. The taste of paraffin is, he said, communicated to the extract. The proper way in dealing with nux vomica is not to dissolve the fat and then deposit it. That is like spilling a pint of peas on the floor and then picking them up. (Laughter.) There are useful solvents for fats by which the fat could easily be extracted from nux vomica. There are two kinds of fat in nux vomica, the first, or normal fat, being a glyceridal or ester fat; the other an acid fat. It is easy to remove the ester fat. Caspari states that by cooling the preparation in a refrigerator the greater part of the fat is removed, but this will not remove the oleic and palmitic acids. Why not take an innocent solvent and percolate the nux vomica first? Such a solvent is carbon tetrachloride, than which he knew no better solvent for fats. He had thought of putting a suitable preparation on the market, but had not the money to launch it. He first made the acquaintance of carbon tetrachloride many years ago, when consulted by a railway company as to the advisability of carrying what the company regarded as an extremely dangerous substance. He was able to show that carbon tetrachloride is quite innocuous, even if dropped on a red-hot plate. There should, however, be no carbon bisulphide present, as that is highly objectionable. Referring then to the paper, Mr. Alcock said, in playful allusion to the names of the authors, that the matter is not far from right, but always right—(laughter)—but he (the speaker) would like to have seen a definition of normal temperature. One of his assistants, replying to a question on this point, said that 0° C is normal temperature. Again, as to the alkali used—was it soda, potash, or ammonia? Keller seems inclined to use soda only. For the sake of junior pharmacists he would like to know what the grand inquisitors at Bloomsbury Square would say to the statement that brucine is destroyed by nitric acid. Three years ago he (the speaker) prophesied that a third alkaloid would be found in nux vomica, and although he had not been able to find it he was glad to note that the authors think there may be a third alkaloid.

Mr. Wippell Gadd said he had used the nitric acid process as suggested by the authors, and the results had been favourable. With regard to the suggestion that the standard for strength should be altered, he thought that, although it might be right from the pharmaceutical point of view, from the medical point of view it would be objectionable. He had recently heard a paper by Dr. C. O. Hawthorne, in which he deprecated the doses being given at all in the British Pharmacopœia. There were medical men, he believed, who were unaware that there was such a thing as an 1898 B.P., and the alteration of standard would not be wise. He also wished to know more of the relative value of brucine and strychnine. He objected to the paraffin process, and never used it. He thought it unnecessary to remove the fat, when the fat removes itself. If nux-vomica seeds are put through a disintegrator the hairs will be found exclusively in the balloon, and, as most of the fat is in the hairs, it can easily be removed by solvents.

Mr. J. Rutherford Hill said he noticed that strychnine is the sole object in view in standardising the nux vomica; but prescribers assert that there are great differences in results from the tincture and extract and a simple alkaloidal solution. Is that a mere impression, or is it founded on strictly accurate observations? If strychnine and brucine have the same physiological action, it would be better to have a preparation of strychnine, as that alkaloid can be easily prepared at a cheap rate. He hoped that experiments will be carried out by pharmacologists to settle this point. He would like to know as to the keeping-properties of dried extract of nux vomica. Mr. William Duncan, who recently read a paper before the North British Branch, exhibited a specimen of dried extract which left nothing to be desired. The sample has since then, however, gone into a solid mass. (Laughter.) Is this the case with the powders recommended by Messrs. Farr and Wright, because he noticed that the extracts are to be carefully preserved in stoppered bottles? Some twenty-five years ago, Day, in a paper read in Edinburgh, recommended a process of simple percolation from a standardised powdered drug. This would surely be a better method than making an extract and dissolving it up again.

Mr. Thomas Barclay said, seeing that Mr. Gadd had mentioned Dr. Hawthorne's name in what seemed to him conjunction with doctors who did not know much of the Pharmacopœia, he would like to state that Dr. Hawthorne is a chemist's son, he is a chemist himself, and one of the leading pharmacologists in the profession.

Mr. Gadd explained at once that he had not the slightest intention of casting any slur on Dr. Hawthorne, whose work he knew well and admired.

Mr. F. Ransom said he thought there was very little probability of powdered extracts replacing the old form of moist extract. If the powdered extract is prepared from the standardised drug, it should not be forgotten that it could not contain the theoretical proportion of strychnine, as there is always a certain amount of alkaloid lost in drying.

Mr. H. E. Boorne said the sample of the powdered extract passed around had a decided smell of methyl alcohol, and he was afraid it would hardly pass the official test.

Mr. Prosper H. Marsden said that as extract of nux vomica is used in diabetes, the use of sugar of milk as a diluent was undesirable, whereupon

Mr. Dott said any suitable neutral salt would do as well.

Mr. G. J. Knight said the aim of workers recently had apparently been to produce pharmaceutical preparations that could only be made by the wholesale druggists, and all attempts nowadays were with the view of putting a large share of the manufacturing into their hands. Why not do as the homœopaths do, and make simple triturations of the alkaloid? It appeared to be the practice to work up any rubbish and make a standardisation. He had seen some aq. laurocerasi recently that was merely a weak solution of prussic acid.

Mr. Wright, in reply to Mr. Dott's objection to the use of a self-drug as a diluent, said the chief reason for it is to facilitate recognition. The microscopic characters of nux vomica are so characteristic that anyone examining the extract under the microscope could easily recognise the preparation. It is difficult to completely exhaust a drug of its

alkaloid. One may get out the greater part of the alkaloid, but it is the last traces that are difficult to remove. It can be done, however. The use of the self-drug is also a matter of convenience, and in deciding to use it all the circumstances had been taken into account. As to Mr. Alcock's remarks on the removal of fat, it is possible to take out all the fats from nux vomica extract with paraffin. The process first received from across the water was well tried by the authors and found to be quite reliable and satisfactory. He (Mr. Wright) added, however, that although one can remove the whole of the fat from an alcoholic solution of nux vomica in this way, a peculiar black resinoid substance is also removed. As to the action of nitric acid on brucine, certain products are obtained, the chemical nature of which is well understood. It does not mean that the brucine is destroyed, but that it is converted into another compound, probably dinitrobrucine. He had hoped to have had some information to lay before the Conference as to the strychnine standard. Medical men are clear that brucine and strychnine have similar physiological action, but brucine is weaker. He was waiting for information from Dr. Dixon of Cambridge. Falk gives it in his book that brucine is a thirtieth as strong as strychnine, and other authorities give it as stronger—say one-seventh. In a recently published work by Dr. Dixon the relative strength is given as a thirtieth, but he (Mr. Wright) was inclined to think that this result is not one that Dr. Dixon has worked out for himself. The extracts keep well, provided, as he had before pointed out, there is a large proportion of diluent to extract—one of dry extract and two of diluent are good proportions. This proportion is necessary. He had used the powdered extracts for some time in his dispensing practice, and replying to Mr. Ransom as to whether the powdered extracts are likely to replace the solid extracts, he had no hesitation in saying that pharmacists will use them on acount of the greater convenience. This will necessarily mean that the old moist extract will fall out of use.

It was now eight minutes past one and the President, asking members to return punctually at two, adjourned meeting.

Second Session—Tuesday Afternoon.

It was 2.25 P.M. before a sufficient audience gathered to enable the proceedings to be resumed. Mr. G. Claridge Druce was in the chair, and called upon the Senior Honorary Secretary, Mr. Peck, to read Dr. T. Slater Price's paper. Mr. Peck mentioned that Dr. Slater Price was formerly on the teaching staff of the Birmingham University, and is now chemist to the Corporation.

Some Applications of Physical Chemistry to Pharmacological Problems.

By T. Slater Price, D.Sc., Ph.D., F.I.C.

This paper referred to cases in which physico-chemical methods have been applied with advantage to the investigation of pharmacological problems. The question of the toxic and disinfecting action of certain salts was first taken in illustration. This has been very carefully studied by Paul and Krönig in the case of mercury salts. The salts used were chiefly mercuric chloride, bromide, and cyanide, the test being the poisonous action of solutions of these salts on the spores of the anthrax bacillus. The disinfecting power of the solutions was determined by allowing them to act on approximately equal numbers of the spores. The poison was then destroyed by chemical means (*e.g.*, precipitation out of the mercury salt by means of ammonium sulphide), and the number of colonies which developed in agar-agar was determined. This number could then be used as a measure of the poisonous effect of the solution; the more poisonous the solution the less the number of colonies. In order to obtain comparative numbers equivalent solutions of the salts were used; the results are shown in the following table :

Solution	After treatment for 20 minutes there developed	After treatment for 35 minutes there developed
1 Mol. $HgCl_2$ in 64 litres H_2O...	7 Colonies	0 Colonies
1 Mol. $HgBr_2$ in 64 litres H_2O...	34 Colonies	0 Colonies
1 Mol. $Hg(CN)_2$ in 64 litres H_2O	100 Colonies	33 Colonies

The first conclusion we can draw from this table is that the toxic action increases with the time during which the solutions are allowed to act on the spores; this is what one would expect. The three salts are very different in their action, however, and mercuric cyanide, which one might expect to be the most poisonous of all, is the least poisonous. Why is this? The explanation can be given by making use of the theory of electrolytic dissociation. This theory the author explained, referring his hearers to text-books for further details. Thus ammonium chloride, when vaporised by heat gives a vapour consisting chiefly of NH_3 and HCl, and comparatively little NH_4Cl; it is dissociated. Similarly when a salt like sodium chloride is dissolved in water a large part of it is split up into Na and Cl atoms, called ions. This is electrolytic dissociation (as distinguished from thermal dissociation). The dissociation varies with concentration of the solution, so that the more dilute the solution the greater the dissociation; thus in a solution of 0.2 gram molecule of sodium chloride (*i.e.*, 11.7 grams) in a litre of water, 86.5 per cent. of the salt is dissociated, and in a solution of 0.127 gram molecule per litre the dissociation is 97.4 per cent. The Na ions are positively charged with electricity and the Cl ions negatively; that is why they differ from the elements in the free state, the Na not decomposing water nor the Cl smelling of chlorine.

Mercuric chloride when dissolved in water dissociates to some extent into Hg ions and Cl ions. Similarly, $HgBr_2$ on dissociation gives Hg and 2Br, and $Hg(CN)_2$ gives Hg and 2(CN). Now, if the toxic action of the salts is due to the Hg ions, we should expect that the salt which is dissociated to the greater extent would have the greater toxic effect. This, in fact, is found to be the case; $HgCl_2$ is more dissociated than $HgBr_2$, and its toxic action is also greater; similarly with $Hg(CN)_2$. It is possible that the ions other than Hg may possess a toxic action, but in the present case their effect is negligible in comparison with that of the Hg ions, since the dissociation of the salts is very small. The effect of the undissociated molecules is also very slight, if, indeed, they exercise an influence at all.

Similar results were obtained with salts of silver, but as these are more highly dissociated than mercuric salts the effect of the negative ions (the acid ions) makes itself felt. This is shown by the following table :

Solution	Colonies after 60 minutes
1 Mol. $AgNO_3$ in 20 litres H_2O ...	27
1 Mol. $AgClO_3$ in 20 litres H_2O ...	42
1 Mol. $AgClO_4$ in 20 litres H_2O ...	219
1 Mol. $AgCH_3COO$ in 20 litres H_2O ...	1580

All these salts are dissociated to approximately the same extent in equivalent solutions, and consequently the concentration of the Ag ions is the same in each case. The action of these salts is different in every case, and depends therefore on the acid ion as well as on the Ag ion; the NO_3 ion has the greatest toxic action, while the CH_3COO ion has the least.

In the case of the mercuric salts it has been shown that their toxic effect is due to the Hg ions; it therefore follows that if the dissociation of the salt can be diminished—*i.e.*, the concentration of the ions made less—the toxic effect will also be diminished. The author answered this by instancing the well-known fact that acetic acid becomes less acid when sodium acetate is added to it, because the salt reduces the dissociation of the acid. This and other similar instances have led to the generalisation :

> If to the solution of a weakly dissociated substance a salt containing a common ion, which is strongly dissociated in solution, is added, the dissociation of the former will be diminished.

$HgCl_2$ is only slightly dissociated, whereas NaCl is dissociated to a large extent. If, therefore, NaCl is added to a solution of $HgCl_2$, the dissociation of the latter, and consequently its toxic effect, should be diminished: also the more NaCl added—*i.e.*, the greater the concentration of

the common ion (Cl) added—the more will the dissociation (and toxic effect) of the mercuric chloride be diminished. That this is so is shown by the following table, where the more NaCl added the greater is the number of colonies developed :

Solution	Number of Colonies
1 Mol. $HgCl_2$ dissolved in 16 litres H_2O...	8
1 ,, + 1 Mol. NaCl dissolved in 16 litres H_2O	32
1 ,, + 2 Mol. NaCl ,, ,,	124
1 ,, + 3 Mol. NaCl ,, ,,	282
1 ,, + 4 Mol. NaCl ,, ,,	382
1 ,, + 4.6 Mol. NaCl ,, ,,	410
1 ,, + 6 Mol. NaCl ,, ,,	803
1 ,, + 10 Mol. NaCl ,, ,,	1087

This result is of interest, because in medical practice solutions of mercuric chloride are often used as a disinfectant, and it is customary to increase the solubility of the mercuric chloride by adding sodium chloride to it.

There is still another way in which Hg ions may be removed, and the toxic effect of the salts taken away. This is by the formation of complex salts. Yellow mercuric oxide dissolves in potassium thiosulphate ($K_2S_2O_3$) with the formation of mercuric thiosulphate, which dissociates into the ions $Hg.2(S.SO_2O)$ and 2K, so that the solution contains no Hg ions. It has been found to be non-toxic. Similarly, the toxic effect of silver salts can be reduced by the addition of sodium thiosulphate.

From the foregoing results it is evident that, in order to estimate the toxic effect of salt solutions, it is not enough to determine merely the total concentration of the dissolved substance, but it is also necessary to find the concentration of the ions. This is also true when effects other than toxic are being studied.

The author concluded by instancing Wade and Finnemore's discovery of ethyl chloride in alcohol chloroform and none in acetone chloroform (*C. & D.*, 1904, lxv., p. 472) as another application of physical chemistry.

Discussion.

Mr. Druce invited remarks, and as no one came forward the customary vote of thanks was passed.

Mr. Naylor now resumed the Presidential chair, and called for the following paper :

Notes on the Flora of the Lickey Hills.

By John Humphreys, F.L.S.

The author first described the topography of the county of Worcester, then its geological formation. In the course of his remarks he said the Lickey Hill is the stump of probably one of the oldest mountain ranges in the world, compared with which the Alps and Himalayas are mushrooms of yesterday. The upper Lickey slopes are covered with angular red rocks of Permian breccia, supposed to have been formed by the disintegration into screes of local ancient mountains; while the south-west sides are formed of the lowest division of the new red sandstone, deposited in a fresh-water lake. He referred to the characters of other hills in the district, remarking that probably no place in England exhibits a more diversified geological aspect. Originally Worcestershire was more or less occupied by enormous forests. The rivers were the principal highways by which the forests were penetrated and communication made from hamlet to hamlet. At the time of the Domesday Survey the manor of Bromsgrove, which included the Lickey Hills and all the country stretching from Birmingham in the north to Upton Warren in the south, fell to the share of the Conqueror, and was kept very largely as a hunting-lodge, for we are told that he bred his hawks for hunting on the manor. The forests were ultimately done away with in the year 1629, and the land brought into cultivation, but a great amount of common and waste land existed until the end of the eighteenth century. This was especially the case with the Lickey, where the more elevated portion was a wild heath, growing bracken, heather, and ling. A considerable amount also consisted of bog and marsh, the home of numerous rare plants, many of which have ceased to exist. About the year 1800 from two to three thousand acres of land was enclosed on the Lickey, at an expense of about 8*l.* per acre, and the land brought into cultivation; and during recent years the slopes of the Lickey have been covered with large houses and mansions, converting it into a fashionable suburb of Birmingham.

The first recorded observations of the flora of East Worcestershire were made by Mr. Purton, a surgeon, of Alcester, who published in the year 1817 "The Midland Flora." He visited the Lickey from time to time, and mentions many rare bog-plants which then flourished, among them being the sundew, marsh cinquefoil, and grass of Parnassus. All are now extinct, but the sundew existed until quite recently. Mr. Carpenter, who resided at Chadwich Manor at the beginning of last century, when the commons were enclosed, mentions the cranberry, bog asphodel, and bog violet as common plants. Mr. Humphreys proceeded to give a list of the plants found in the district, viz. :

Viola palustris
V. hirta
Anagallis tenella
Menyanthes trifoliata
Ranunculus hederaceus
R. peltatus
R. Baudotti
R. circinatus
Montia fontana
Equisetum maximum
E. palustre
E. sylvaticum
Corydalis claviculata
Spergularis rubra
Geum rivale
Botrychium Lunaria
Ophioglossum vulgatum
Habenaria viridis
H. bifolia
Polygala depressa
Veronica montana
Geranium columbinum
G. lucidum
Athyrium Filix-fœmina
Lastrea dilatata
L. spinulosa
L. orcopteris
L. Filix-mas
Polystichum aculeatum
P. angulare
Scolopendrium angulare
Blechnum boreale
Lathræa squamaria
Cardamine amara
Butomus umbellatus
Sagittaria sagittifolia
Nasturtium amphibium
Lysimachia Nummularia
Veronica scutellata
Scutellaria galericulata
S. minor
Potamogeton pectinatus
P. crispus
P. perfoliatus
Limosella aquatica
Litorella aquatica
Cephalanthera ensifolia
Epipactis media
Campanula patula
C. Trachelium
C. latifolia (white var.)
Fritillaria Meleagris
Inula Helenium
Lotus tenuis
Bidens tripartita
Lathyrus Nissolia
Chlora perfoliata
Gentiana amarella
Stachys palustris
Sium angustifolium
Ophrys apifera
Spiranthes autumnalis
Paris quadrifolia
Orchis Morio
Typha angustifolia
Polygonum amphibium
Lepidum ruderale
Malva moschata
M. sylvestris
M. rotundifolia
Sedum Telephium
Lycopus europæus
Acorus Calamus
Verbena officinalis
Potentilla argentea
Conium maculatum
Galium Mollugo
Solidago Virgaurea
Silene inflata
Chrysosplenium oppositifolium
C. alternifolium
Hypericum humifusum
Rhamnus catharticus
Adoxa Moschatellina
Saxifraga granulata
Colchicum autumnale

Discussion.

The President said the Conference were fortunate in having placed before them in that manner, and with so much literary charm, the geological and botanical features of the local flora.

Mr. J. W. White said he was not acquainted with the district flora, and could not, therefore, offer any criticisms. He was delighted with the felicity with which the subject had been treated. It dealt with long names which to many were objectionable, but had been put forward in a manner pleasing to listen to.

Mr. Druce, speaking of the close relations between the soil and the plants which grow upon it, said the striking feature of the neighbourhood is the absence of calcareous rocks. This feature causes an entire alteration in the flora. Acid rocks—if he might use the term—prevail which give a home to plants that are comparatively rare. As regards the Limosella, a classic home of this had been, since 1794, Binsey Wood. It was found there until 1834, when Baxter noticed it. From then to 1905 there could be found no other record. Last year, however, he (the speaker) found three or four plants in a neighbouring stream, and this year, the stream being nearly dried up, the plant is most abundant. This shows how careful one has to be before pronouncing a plant as extinct, even in a well-searched locality. Mr. Druce then, referring to the spread of houses in the neighbourhood of Birmingham, said he hoped there was enough

public spirit to purchase part at least of Sutton Park for dedication to the public. The park should be preserved unsullied in its natural condition for all time.

Mr. Humphreys, replying, said he wrote the paper at the request of his old friend Mr. Thomas Barclay. He had been delighted to meet Mr. Druce, whom he had not previously seen, although knowing him as one of the greatest authorities on British flora. He (the speaker) had tried to make the paper of general rather than particular interest. It is curious that plants never seem to cross from one soil to another, even from soils so closely related as red marl and the new red sandstone. He could not account for the luxuriant growth of fritillaria, which is a calcareous plant; it is, however, firmly established in the neighbourhood. Mr. Humphreys added that he acquired his taste for botany when studying as a pharmaceutical student.

It was now three o'clock, and the President called on Mr. Mann for his paper.

Note on Strophanthus and Strophanthin.

By E. W. Mann.

The late Mr. John Barclay in 1896 described a method of valuing tincture of strophanthus by estimating the amount of strophanthidin which it yields on hydrolysis. Cæsar and Loretz have suggested (September 1905) a method that follows the same principle; but Mr. Barclay considered that the strophanthidin method can only be relied upon when the botanical source of the drug is absolutely determined, and that direct estimation of strophanthin would be preferable. The author described experiments with the latter object. He worked with four specimens of seeds, viz. :

1. Seeds from a commercial parcel, origin unknown, but 100 per cent. giving a green reaction with 80 per cent. sulphuric acid.

2. Seeds of *Strophanthus Kombé*, "Mandala brand," 100 per cent. giving green reaction.

3. Seeds of *Strophanthus Nicholsoni*, described by E. M. Holmes ("Pharm. Journ.," September 4, 1897) and kindly verified by him. These seeds gave a distinct red reaction with the acid test.

4. Seeds of *Strophanthus gratus*, which were guaranteed authentic, and gave a yellowish-pink colour with the above reagent.

The method of examination was as follows :

100 grams of the seeds was powdered and exhausted with petroleum spirit; the oil was separated and incidentally examined on the usual lines. The oil-free powder was air-dried, transferred to a Dreschel extractor, and percolated for thirty hours with boiling absolute alcohol; percolate was evaporated and the residue, when cold, taken up with water. To this aqueous liquid a slight excess of solution of basic acid of lead was added, the liquid filtered, filtrate treated with excess of sodium sulphate, filtered, filtrate evaporated at low temperate with 10 grams of fine sand. The product was powdered and exhausted in a Soxhlet tube with boiling amyl alcohol; the bulk of the solvent was removed on a water-bath and evaporation and drying completed at 60° C.

The oils obtained from the petroleum-ether extract showed the following characters :

—	S. Kombé (?)	S. Kombé Manda'a	S. Nicholsoni	S. Gratus
Percentage of oil in seeds	34.08	31.76	29.90	35.01
Specific gravity of oil ...	0.9249	0.9278	0.9219	0.9230
Free acid calculated as oleic, per cent.	7.55	6.84	14.04	5.17
Saponification-number ...	192.6	189.7	193.5	191.3
Iodine absorbed in 18 hours, per cent.	100.7	99.4	99.7	93.3
Melting-point of fatty acids	33° C.	33° C.	33° C.	29° C.

The strophanthin obtained by the method described, recrystallised from amylic alcohol, formed long, colourless, needle crystals which gave highly characteristic colour-reactions with sulphuric acid. Each was very slightly dextrorotatory in alcoholic solution, while in no case could a sharp melting-point be obtained for the anhydrous glucoside. The results obtained from this examination are as follows :

—	S. Kombé	S. Kombé, Manda'a	S. Nicholsoni	S. Gratus
Strophanthin, per cent.	7.27	6.87	3.69	7.76
Colour with £0 per cent. H_2SO_4	deep green	deep green	brown	brown
Strophanthin per cent. by the strophanthidin method...	9.36	8.82	7.33	3.88

These latter figures in the cases of *S. Nicholsoni* and *S. gratus* exhibit such marked variation from those obtained by the direct method as to suggest that some essential difference exists in the chemical composition of the different glucosides; and, in view of the recommendation of Thoms and others that *S. gratus* should be recognised as the German official source of strophanthus, the point is of considerable importance. This peculiarity of behaviour is also marked when the results of physiological tests are considered. These were made by Professor R. F. C. Leith, F.R.C.P., of Birmingham University, and the minimum lethal doses per 100 grams of frog were found to be as follow :

N-strophanthin, not within the limits of the experiments.
K-strophanthin, 5 minims.
G-strophanthin, 3.8 minims.

Continental workers have testified to the activity of G-strophanthin, and these results bear out their opinions. K-strophanthin is not far removed in its toxicity, while the Nicholsoni glucoside is comparatively feeble, or even inert. (The different strophanthins are distinguished, according to Arnaud's suggestion, by the initial letter of their specific names.) Considering the whole question, these results appear to show that it is possible to chemically standardise strophanthus and its preparations, but that the standardisation can only have a real value when the botanical character of the seeds is fully established, and, failing this, the activity of the drug can only be tested by physiological experiments, and even here we are confronted by the fact that the active glucoside in *Strophanthus gratus* exhibits decided variation from that present in the official variety, and may not be strictly comparable in its physiological effects upon human beings.

Discussion.

The President asked if Mr. Mann was quite satisfied that he had not had considerable loss in his process of determining strophanthin. He (the President) presumed the precipitates were washed, for example, although that fact was not stated.

Mr. Gerrard said that many years ago he had to prepare for University College a number of preparations of strophanthus, and attempted to obtain pure strophanthin. The process he used was similar to that worked by Mr. Mann. He had, however, never been quite satisfied with the process. Was Mr. Mann sure that he had got rid of all the sodium acetate in the lead-removing process? The acetate is insoluble in some of the solvents used in the process, and would contaminate the strophanthin. Had Mr. Mann any difficulty in getting rid of the glucose? The percentages of strophanthin shown were considerable, and might not all be strophanthin. Mr. Mann remarked in the paper that the preparation is hygroscopic, which seems to indicate impurity, both sodium acetate and glucose being hygroscopic.

Mr. Wright said in working with strophanthus he had found extreme difficulty in obtaining pure products. He had found the process of the late Mr. John Barclay give most exact results, but had never felt quite sure that the product is pure.

Mr. Umney asked if Mr. Mann had determined the relative activity of the seeds giving the red and green colour reaction with sulphuric acid, as directed in the Pharmacopœia. He had found seeds from the same pod give different colours. The matter is of great importance from a pharmaceutical point of view.

Mr. Mann, in reply, said the precipitates were always washed. A small amount of mineral matter was deducted from the strophanthin. He had no doubt as to the purity of the product. All the seeds used gave one colour-reaction.

The President proposed a vote of thanks, which was given by acclamation.

The next paper was

Note on Unguentum Cocainæ, P.B.

By R. A. Cripps, F.I.C.

In the summer of 1904 the author examined four samples of cocaine ointment taken under the Sale of Food and Drugs Acts. Two of the samples had been prepared with cocaine hydrochloride instead of the alkaloid, and in each case there was a serious deficiency in the proportion of cocaine. This latter fact led him to suspect that some decomposition had occurred during the week which elapsed since the samples had been taken. The samples were set aside with a view to future examination, which was not done until about twelve months later. The following are the results obtained :

No. of Sample	Cocaine Hydrochloride, 1904	Cocaine Hydrochloride, 1905	Cocaine, 1904	Cocaine, 1905
	Per cent.	Per cent.	Per cent.	Per cent.
1	3.92	3.2	—	—
2	—	—	3.16	0.2
3	3.44	1.9	—	—
4	—	—	3.44	0.15

By these results two facts of great importance to the physician and pharmacist (not to mention the patient) are indicated, viz. :

1. The unstable nature of this ointment.
2. The great superiority of cocaine hydrochloride as regards permanence.

It may be objected that, cocaine hydrochloride being insoluble in lard, the ointment prepared frem it will be less efficacious; but, in view of the fact that it is almost exclusively applied to mucous surfaces, this objection dees not hold; on the contrary, the natural moisture of the membrane is sufficient to dissolve the salt, and so ensure the fullest effect; or, if hydrous wool fat be used in place of lard, the water of this base will answer the same purpose.

Discussion.

The President said physiological and pharmacological tests would need to be made to verify the conclusien of the author and make sure that the same effects are obtained from the hydrochloride as from the alkaloid.

Mr. Wright said that physicians prefer cocaine hydrochloride where rapid action is needed. Hydrous wool-fat is a very sticky basis, but with an equal quantity of lard a more satisfactory basis is obtained. It is a softer product, and he was surprised that it is not more often used as a basis.

Mr. Umney said that if the deterioration of the ointment is due to acidity, that might be got over by very simple means.

Mr. E. S. Peck referred to the statement that "the natural moisture of the membrane is sufficient to dissolve the salt and so ensure the fullest effect," and said that recently he had been asked to make up cocaine hydrochloride with cocoa-butter for a local anæsthetic, but was told by the physician that it had no effect. The same method pursued with the alkaloid gave excellent results.

Dr. Symes said in the early days of cocaine medication a little acid used to be added, to render the alkaloid more soluble. It is certain that if the alkaloid is brought into solution the effect is greater than when the hydrochloride is used, and the more neutral the solution is the more active it will be found to be. If care is taken to prevent deterioration, cocaine alkaloid is more permanent than the hydrochloride. He would prefer to use a petroleum product as a softener instead of lard, on account of the rancidity which would ensue in time from the latter.

Mr. J. P. Gilmour said that in hospital clinical practice it has been found that the effect of cocaine is more easily obtained if the part is first painted with solution of sodium bicarbonate and then with cocaine-hydrochloride solution. The anæsthetic effect is stronger and more permanent. He thought the method an important indication of the superior action of the nascent alkaloid.

Mr. Cripps, in reply, said it would seem that counsels are divided as to which is the better, the alkaloid or the hydrochloride, which indicates that both ointments should be in the Pharmacopœia. He would remind some of the speakers that in the B.P. ointment the alkaloid is directed to be dissolved in oleic acid, and that an acid preparation results. Dr. E. R. Squibb, in the early days of the "Ephemeris," as a result of a series of experiments, distinctly stated that the effect of the alkaloidal solution in oleic acid is less pronounced than the hydrochloride. The use of bicarbonate of soda, as mentioned by Mr. Gilmour, may act by promoting a more thorough cleansing of the part.

It was now 3.30 p.m., and the President said that, as the members had to catch the train to Coventry, no more papers would be taken. He asked that members would be in their places at 9.45 a.m. on Wednesday for the resumption of the session.

Third Session—Wednesday Morning.

The morning opened fine, and the weather acted as a temptation to some of the members to see the local sights. There was, however, a good audience present, although it was not till five minutes past ten that the President was able to commence the proceedings.

The President, in calling on Mr. Peck to read the first paper, "Taylor on Emulsification of Aqueous Liquids with Oil of Theobroma," said Mr. Taylor was a new contributor to the Conference. Mr. Taylor wrote for the research-list, and selected a subject for his work—a method he (the President) commended.

Mr. Peck then read the paper

Suppositories.

By S. Taylor.

The Conference research-list asks for a method of emulsifying aqueous liquids with theobroma oil in the preparation of suppositories. The author finds that the addition of 1 to 2 per cent. of sodium stearate to the whole mass emulsifies 30 per cent. or more of water or aqueous liquids, and 30 per cent. of a 45-per-cent. spirituous liquid such as liquid extract of witch-hazel. The methods of manipulation vary. In the case of a liquid which may be boiled without injury, the liquid and the sodium stearate may be boiled together first and allowed to cool. The oil of theobroma is then added, and the whole stirred until emulsification takes place. In the case of liquids injured by streng heat the sodium stearate and oil of theobroma may be heated together until completely mixed, and as the mass cools down the liquid may be stirred and emulsified. This process is more tedious. It is not possible to lay down a hard-and-fast rule for making this class of suppository; judgment and experience must point out the way. Hamamelin, for example, in the presence of excess of water tends to clot and form an unsightly and unsatisfactory mass. Here it would be preferable to first make the emulsion of liquid and oil, then make the suppository by pressure in the cold. In some difficult cases the addition of a small percentage of anhydrous wool-fat is an advantage. The accompanying list shows some formulæ which have been found to work satisfactorily, and gives some idea of the use of sodium stearate as an emulsifying agent :

	1	2	3	4	5	6	7	8
Cacao-butter	66	64	66	69	48	68	60	72
Sodium stearate	4	4	2	1	2	2	2	2
Anhydrous wool-fat	—	2	2	—	—	—	—	—
Spirit of witchhazel	30	30	30	30	30	—	30	—
Oxide of zinc	—	—	—	—	12	—	—	—
Hamamelin	—	—	—	—	8	—	8	6
Liquid extract of hamamelis	—	—	—	—	—	30	—	—
Solution of adrenaline ...	—	—	—	—	—	—	—	20

The addition of sodium stearate does not appreciably alter the melting-point of the mass.

Samples of the suppositories were passed round for inspection.

DISCUSSION.

The PRESIDENT said the paper was an eminently practical one, which it was the desire of the Conference to encourage. He believed that sodium stearate is recommended in the U.S. Pharmacopœia for glycerin suppositories.

Mr. ALCOCK said sodium stearate is most useful for solidifying glycerin, some suppositories on the market consisting of 95 per cent. of glycerin and 5 per cent. of sodium stearate. He would like to know whether sodium stearate would solidify paraffin, as there is a demand for some such substance for fuel purposes.

Mr. DOTT said he had found adeps lanæ, with a little white wax, useful where aqueous substances were required to be incorporated with theobroma.

Mr. J. R. HILL referred to the useful character of the paper, and said it was a kind of paper which could well be multiplied. He admired the very succinct manner in which the results were stated. The sodium stearate would be a capital way of dealing with difficulties at the dispensing-counter. He was not aware that such beautiful suppositories could be produced with sodium stearate.

Mr. FINNEMORE said that both hard and soft soap have valuable properties of taking up liquids in dispensing.

Mr. PECK said that the author of the paper was Mr. Samuel Taylor, of Derby. He (Mr. Peck) expressed his pleasure at the practical nature of the paper, and took it as a compliment to the Research Sub-committee.

The PRESIDENT moved a vote of thanks to the author of the paper, and, this having been accorded, called on Mr. LIVERSEEGE for his paper. The author of this paper made good use of the blackboard to show some of the points of the paper. He also, in reference to the expression "unqualified vendor," said it seems simple to divide the drugs as having been bought from qualified and unqualified vendors—until you try. The samples may, for instance, be sold by the qualified assistant to a qualified company (with all the directors qualified chemists), a qualified assistant to an unqualified company, and an unqualified assistant to a qualified owner. It is difficult to get the inspector to follow the difference between these cases. The paper was given in a nice chatty style.

Review of Past Analyses of Drugs Officially Bought in Birmingham.

By J. F. LIVERSEEGE, F.I.C., Ph.C.

Samples of drugs are bought for analysis in Birmingham from qualified chemists, drug-companies, herbalists, and hucksters. This paper embodies results of the analyses of these obtained by the author and (before 1902) by his predecessor, Dr. Alfred Hill. The author stated that the worst of the samples have been obtained from shops kept by unqualified persons. The author in communicating his results occasionally gave particulars of his analytical methods, which will be published in the Conference "Year-book." We quote the results as briefly as possible:

ARROWROOT.—Over 200 samples have been analysed and only two were adulterated; one consisted of tous-les-mois starch and the other of maize-starch. The ash of arrowroot is generally about 0.15 per cent., the extremes have been 0.03 per cent. and 0.26 per cent. Two genuine samples contained 0.01 per cent. and 0.02 per cent. of nitrogen, while the maize contained 0.07 per cent.

BORAX.—The method of analysis was described. Most of the samples analysed have been genuine. In three instances samples were adulterated with sodium bicarbonate.

CITRATE OF IRON AND QUININE.—The amount of quinine yielded by eleven samples varied from 14.4 per cent. to 15.9 per cent., the proper quantity being 15 per cent. Five of them lost 6.9 to 8.3 per cent. of moisture on drying in the water oven, and yielded 18.9 per cent. to 19.3 per cent. of ash.

DISPENSING.—Analyses have been made of forty-two mixtures; nine of them were more or less unsatisfactory. One of four Epsom-salt mixtures was deficient in that ingredient, probably because an avoirdupois ounce was used instead of an apothecaries' ounce. Nine bromide mixtures were correctly dispensed, and one was somewhat deficient of the chief ingredient. Of thirteen iodide mixtures one was made with tap-water instead of chloroform-water, two were deficient in iodide of potassium, and two contained an excess of it. One of these was remarkable for its errors. The prescription ordered the 6 oz. to contain 360 grains, with a teaspoonful dose. The bottle had a capacity of 5¼ oz., it contained 334 grains, and the dose was given as one tablespoonful, the net result being that a dose contained 32 grains of potassium iodide instead of 7½ grains. The dispenser was unqualified. Four samples of quinine and iron pills were analysed; one of them contained nearly twice as much iron sulphate as was ordered. In each case the amount of quinine sulphate present was correct.

EPSOM SALT.—One of the samples received consisted of sulphate of zinc. Apparently a quantity had been wrongly labelled, but the mistake was found out before anyone had been injured by taking the article.

GLYCERIN.—As a rule the samples analysed have been genuine, containing 4 per cent. of water and less. In a few instances minute traces of arsenic have been present. In 1897 two samples were adulterated with 40 and 45 per cent. of dilute glucose syrup. The samples were 1*d.* bottles put up by an unqualified vendor.

ALMOND OIL.—Seventeen genuine samples showed little range in analytical figures. Sp. gr. 0.917 to 0.919; saponification-value, 19.1 per cent. to 19.4 per cent. of KHO. They absorbed 95 per cent. to 99 per cent. of iodine. Three samples were largely or entirely apricot-kernel oil.

CAMPHORATED OIL.—The first prosecution in the country for adulterated camphor oil took place in Birmingham in 1897 for a sample which contained only 10 per cent. of camphor. In 1899 ten of the thirty-two samples examined were condemned; four of them were made of olive oil, but were deficient in camphor; six samples contained mineral or other foreign oil, the worst of them had less than 1 per cent. of camphor. During 1900 to 1904 only three out of thirty-five samples were adulterated. Last year twenty-seven samples were analysed, thirteen being more or less adulterated. Most of the defective samples were 1*d.* bottles put up by unqualified dealers.

CASTOR OIL.—The sp. gr. of fourteen samples varied from 0.9625 to 0.9652. Ten samples gave butyro-refractometric figures at 25° C. of 77.3 to 78.3. Nine samples examined in a 200-mm. tube of the polariscope gave rotations of +8.6° to 9.2°. All the samples were passed as genuine. A mixture was made of 90 per cent. castor oil and 10 per cent. of cotton-seed oil. It gave sp. gr. 0.9581, refraction 76.7, and rotation 7.8°.

COMPOUND LIQUORICE POWDER.—The amount of ash found in twenty-one samples was 3.8 per cent. to 6.4 per cent.; one sample had only 2.9 per cent. The following method of analysis has been tried on four samples only:

> A weight of 2.4 grams was macerated in 60 c.c. of methylated spirit overnight and filtered, 50 c.c. (equal to 2 grams of the powder) was evaporated to dryness and dried in the water oven; the dissolved matter weighed 15.4 per cent. to 17.4 per cent. (This determination was made to detect spent drugs.) The undissolved residue was macerated overnight with 30 c.c. of carbon disulphide and filtered. The filtrate was measured, evaporated to dryness, and dried. (The dissolved matter was nearly pure sulphur, and amounted to 7.0 per cent. to 8.6 per cent., theory being 8.3 per cent.) The undissolved residue was macerated with 60 c.c. of water two hours, filtered, and 20 c.c. (equal to 0.8 gram of the powder) evaporated to dryness and dried. (The weight varied from 47.2 per cent. to 49.0 per cent., probably a little sugar had been dissolved by the previous extraction with spirit, but the results are near 50 per cent., which is the theoretical figure for sugar.)

GREGORY'S POWDER.—Four samples yielded 64.2 per cent. to 67.6 per cent. of ash, and 0.5 per cent. to 1.4 per cent. of CO_2. The fifth sample yielded 31.7 per cent. of ash and contained 19.0 per cent. of CO_2. The vendor stated that it had been made with carbonate instead of oxide of magnesia.

SEIDLITZ POWDERS.—These have not been at all satisfactory. The acid powder should weigh 38 grains; 14 to 55 grains were found. An alkaline powder ought to weigh 160 grains; weights found varied from 89 to 200 grains. The alkaline powders ought to consist of 25 per cent. sodium bicarbonate and 75 per cent. Rochelle salt. The sodium bicarbonate varied from 18.5 per cent. to 100 per cent., and the Rochelle salt from 0 to 81.5 per cent. One sample consisted entirely of $NaHCO_3$, and another was a mixture of 80 per cent. $NaHCO_3$ with 20 per cent. Na_2SO_4. In one instance the tartaric acid was wrapped in blue paper and the alkaline powder in white paper. The worst samples had been put up by unqualified vendors. One of them contained only half the proper quantity of tartaric acid and one-third of the right amount of Rochelle salt, while the bicarbonate was twice as much as it should have been. The box bore the following impudent label:

> CAUTION TO THE PUBLIC.
>
> Thousands of boxes of a common imitation of the genuine Seidlitz Powders are being sold by unprincipled Traders for extra profit. We guarantee all our powders to be genuine.

SAFFRON.—From 1889 to 1893 forty-seven samples were examined and seven condemned. The genuine samples contained 4.5 per cent. to 6.8 per cent. of ash. The moisture of twenty samples varied from 8.9 per cent. to 18.0 per cent.

Three samples were adulterated with 13 per cent. to 19 per cent. of dyed calendula florets. Another sample had 40 per cent. of sedge and 10 per cent. of colourless saffron. Two samples were adulterated both with mineral and vegetable matter. One of them yielded 32.8 per cent. of ash and 55 per cent. of dyed calendula florets, the other 35.1 per cent. of ash and 43 per cent. of dyed calendula florets. A sample of calendula florets was examined. It contained 6.5 per cent. of ash and 16.9 per cent. of moisture. A number of samples of saffron contained stamens.

Sodium Bicarbonate.—Two samples bought at the same time proved to be borax. An accidental substitution.

Spirit of Camphor.—The sp. gr. of seven samples was 0.8457 to 0.853. In a 200-mm. polariscope tube the samples gave rotations from 7.3° to 11.3°. The rotations multiplied by 1.25 (*C. & D.*, January 28, 1899) give the amount of camphor—viz., 9.1 w/v to 14.1 w/v. Most of the samples were bought in 1896. In that year a sample had a sp. gr. of 0.8513, and gave 7.8° of rotation; in 1903 the sample gave practically identical results—viz., 0.8512 and 8.0°. It had been kept in a corked bottle.

Sal Volatile.—Between 1890 and 1903 fifty samples were examined. Ten contained an insufficient quantity of carbonate; four of them were also deficient in ammonia. If ammonium carbonate were replaced by an equivalent quantity of ammonium bicarbonate and solution of ammonia, the author thought manufacturers would have less difficulty in making a uniform product.

Sulphur, Milk or Precipitated.—Apparently the calcareous product is becoming extinct. Between 1892 and 1900 only two samples were adulterated with calcium sulphate.

Compound Tincture of Benzoin.—Dr. Hill and the author in 1901 expressed the opinion that the solid extract in this tincture should amount to 18 w/v, and that 16 w/v might be taken as the minimum limit. Since then twenty-six samples have been analysed. The solid matter varied from 16.7 w/v to 22.6 w/v, with an average of 18.5 w/v. The sp. gr. varied from 0.894 to 0.911.

Paregoric.—Four of ten samples examined in 1890 had been wrongly prepared. Twelve samples bought in 1900 and 1901 were all genuine.

Tincture of Iodine.—Half of the fourteen samples examined in 1895 were incorrectly prepared. Seventeen samples bought in 1901-1903 were much better, only two being reported against. In one of them the greater part of the potassium iodide had been replaced by sodium iodide.

White Precipitate Ointment.—Two samples examined were genuine. One contained excess of precipitate, another had been made with zinc carbonate, and another contained 2.5 per cent. of white precipitate and 12 per cent. of zinc oxide. Each of the adulterated samples was obtained from unqualified dealers.

Wood Charcoal.—Seven samples yielded 2.7 per cent. to 7.0 of ash, being below the Pharmacopœia requirements.

Discussion.

The President said all would agree that Mr. Liverseege's paper was useful as a record of facts. It was also informative and suggestive. He (the President) regarded the details respecting the analysis of borax as of great assistance; there were some points in it which were to him quite new. With regard to Epsom salts, he thought it might be probable that the deficiency in one of the four samples might be due to a difference in the degree of dryness of the sample used. He had tried oxidising the sulphur when estimating compound liquorice powder, but he was now inclined to think that the carbon sulphide method is more accurate. With reference to compound tincture of benzoin, he had read various published statements as to the amount of extractive that this tincture should yield, but the details were somewhat misleading. He would be glad if they could come to some sort of agreement on this point, because the amount of extractive differs with different analysts, and everything depends upon the method adopted. Would the author give a few more particulars of the examination of glycerin for glucose, as he could not quite understand why the author should have found the examination so difficult. He observed that the author had used the refractometer in detecting adulteration in castor oil, and he would ask whether he had any experience in the use of the instrument in detecting adulteration in essential oils. It would be interesting also to have the experience of the members present on the methods they have adopted for the examination of compound liquorice powder.

Mr. J. C. Umney said he would like to hear of a handy method of determining sugar in compound liquorice powder, and what factor is taken as the reducing power of the powder. As to the quantity of extractive in tinct. benz. co., how would Mr. Liverseege act in case of samples, one with 17.5 grams of extractive, and one with 21.5? Which would he condemn, bearing in mind that extractive is cheaper than alcohol?

Dr. Symes said that in the case where the incorrect weight of Epsom salts was dispensed in a prescription there could be no object in giving a smaller quantity. He suspected that in this case, as it was an unusually large quantity for dispensing-scales, the ordinary shop-scales had been used, possibly with a piece of paper. This would account for the difference in weight.

Mr. Finnemore said there is great necessity for arriving at some definite conclusion as to the time and method of drying the residue from compound tincture of benzoin. Mr. Mann had published some excellent work on the process of estimating tinct. benz. co. At present it is easy to get practically any figures. In testing compound liquorice powder it should be noted that sublimed sulphur is not entirely soluble in carbon bisulphide.

Mr. Alcock: There is 5 to 8 per cent. insoluble.

Mr. Mann said it had been the practice in his laboratory to weigh the benzoin residue till constant loss is obtained in a given time.

The President: What time?

Mr. Mann: Say, one hour, but it varies, the point being to get a constant loss. The point as to the solubility of the sulphur in carbon bisulphide is important. It should also be noted that unless carbon bisulphide is stored from light and heat free sulphur will be present.

Mr. Gadd said Mr. Liverseege's paper exhibited rather a want of proportion. It is not right to put a pharmacist in the criminal dock. There is a doubt as to what the late Dr. Gregory preferred to put in his powder. He also referred to Mr. Mann's process for the aromatic acids in tinct. benz. co., and thought Mr. Liverseege's figures rather high—15.4 to 17.4 per cent. At the last Conference he showed figures of 3.73 to 4.85, and Messrs. Kirkpatrick and Moore obtained 4.86 to 5.29 per cent.

Mr. Alcock said Mr. Liverseege is a pharmacist as well as an analyst, and he wished there were many more like him. Some of the instances of adulteration given he would be inclined to look upon as not sufficient for hauling a man before a magistrate. Take the case of arrowroot. He regarded tous les mois rather as a substitute than an adulteration. Tous les mois is a substitution of a very high order; it is far better and nicer than arrowroot. Maize starch should not, of course, be sold for arrowroot. The dispensing "comedy of errors" perhaps arose from the dispenser having made the mixture in a measure and then transferred it to a bottle which did not hold all the liquid. He remembered that in the case of spt. vini gallici it had not always caused him much regret when a bottle fell short of the quantity made. (Laughter.) Were the figures of the amount of Epsom salts given in Roman numerals? If so, it would be easy to dodge a few of them. They could all understand how zinc sulphate came to be put in place of magnesium sulphate—some porter in the warehouse got the two mixed owing to the barrels being close together. That could not be called adulteration. He referred to a well-known pharmacist who found crystals of sugar in his glycerin tin. The moral of this is that when one finds the glycerin tin running out rather freely, it would be well to cut open the tin and see if there be a crop of crystals on the inside. Mr. Alcock next referred to adulterated camphorated oil, and in regard to compound liquorice powder suggested that it might be made with precipitated sulphur. In seidlitz-powders he had found small quantities of tartar emetic. He had also found sulphate of soda present. In several high-class businesses the blue paper is always used for the acid powder and the white paper for the alkali. It was so in Schacht's. He had found safflower in saffron, but never calendula. He would not like to say that tinct. benz. co. contained only 14 per cent. of total solids. It is the benzoic and cinnamic acid upon which the efficacy of the tincture depends. He reminded the meeting that there are a lot of shops in Birmingham not chemists where red-precipitate ointment is prepared with red-lead and white-precipitate ointment with whiting.

Mr. J. P. GILMOUR, as a retailer, felt particularly grateful to Mr. Liverseege, as hitherto there had not been that co-operation which should exist between pharmacists and public analysts. He thought that the need was increasingly evident, from the results shown in this paper, for retail chemists to test their own drugs and chemicals. He had occasion to buy saffron in considerable quantity, and obtained many samples from various sources, and tested them all. The sample to which the highest price was attached gave 33⅓ per cent. of ash, the greater part being barium sulphate. He merely cited this to show that retailers cannot afford to leave all their testing to the wholesale house.

Mr. R. A. CRIPPS said he had been particularly interested in the discussion, because he is both a pharmacist and a public analyst. He thought that frequently retailers are inclined to lay vexatious prosecutions to the door of the public analyst; but sometimes the decision as to prosecution is in the hands of a medical officer of health or a health committee, and the analyst often advises non-prosecution. Mr. Cripps then referred to the warranty-prosecutions (camphorated oil) recently reported in the *C. & D.* He warned pharmacists that it is not complete evidence of non-adulteration of saffron to look merely for florets of calendula or safflower and to take the ash. He had found ammonium nitrate a frequent adulterant. Mr. Cripps also referred to tinct. benz. co. and camphorated oil, saying, as to the latter, that he had made several experiments on the subject; there is no appreciable loss after camphorated oil is made.

Mr. JONES (Birmingham) asked whether the samples of paregoric examined by Mr. Liverseege were paregoric or "paregoric substitute," the latter being commonly sold in the Midlands by small shopkeepers. A short time ago a huckster was summoned in connection with the sale of "herbal pills." In cross-examination the man admitted that the pills contained a large dose of subchloride of mercury. He thought that public analysts were inclined to be lax in such matters, and these cases he had mentioned, as well as those referred to by Mr. Alcock, showed that the selling of drugs by hucksters ought to have more attention.

Mr. J. R. HILL hoped that pharmacists would get into more intimate touch with analysts, especially on such questions as standards for drugs. He referred to the inference by analysts that the B.P. is the standard for drugs, and mentioned that its standards do not annul the public desire for the old. North of the Tweed the attempt is not made to enforce the Sale of Food and Drugs Acts in unimportant deviations from the B.P. The Acts were intended to deal with fraudulent and deleterious adulterations.

Mr. CRIPPS: The case I mentioned was a warranty case.

Mr. HILL: That does not matter; the Acts were not intended for such unimportant cases. The B.P. is not a public book at all. The preface distinctly states that it is a common ground of agreement only between prescribers and dispensers. There is not even legal backing for that. There ought to be a statutory list of standards drawn up on the authority of a Royal Commission by a body of experts elected from the bodies interested.

The PRESIDENT: I am afraid we cannot discuss the point put forward by Mr. Hill. If we were to discuss that we should want much more time.

Dr. SYMES said that under the Pharmacy Act the Pharmaceutical Society can prosecute a qualified person who does not dispense according to the formularies of the B.P. It is well that the public should appreciate this point, that unqualified persons cannot be prosecuted in the same way. In regard to Gregory's powder he was somewhat unorthodox, but he found that critical and intelligent persons always prefer Gregory's powder made with carbonate of magnesia. That illustrated the disadvantage of putting synonyms in the B.P., and it should not, he argued, be assumed that the carbonate is used because it is cheaper.

Mr. DOTT said too much is made of slight deficiency of camphor in camphorated oil, and the nature of the extractive of tinct. benz. co. is more important than the quantity.

Mr. KNIGHT said it was a great pity that Mr. Dott did not give the Conference his opinion on Gregory's mixture. He noted that precipitated sulphur was passed all right *per se*, but, he argued, when calcium sulphate is present it is not an adulterant. The sale of the article is dropping out because the public cannot get what they want—the calcareous kind. The Runcorn milk of sulphur appeal case settled that years ago. Many people have a terrible horror of the public analyst. "I have not," added Mr. Knight, amidst much laughter. "I know several of these fellows, and I say, let them come on." Public analysts have put themselves on a pinnacle, but they are afraid of cross-examination in the witness-box. Mr. Knight then referred to the sweet-nitre cases at Westminster some years ago, and touched lightly and agreeably upon other points in the paper and discussion.

Mr. LIVERSEEGE, in the course of his reply, said in the case of the Epsom-salt mixture the prescription was written "ʒj.," which he took to equal 480 grains—(cries of "No")—and the "cz." sign to equal 437.5 grains. He ordered "ʒj." and got 441 grains, so that there was something wrong. The method for the residue of tinct. benz. co. which he used is "to evaporate to dryness on a water-bath and dry for three hours in a water-oven." There is a sublimation of volatile acids on the inside of the dish. The limit of extraction for tinct. benz. co. which he suggested was 16 per cent.

Mr. UMNEY: What would you do if 21 per cent. of residue was present? How would you regard such a tincture compared with one containing 17.5 per cent.?

Mr. LIVERSEEGE: I should not deal with it offhand. I think I prefer to wait till the case turns up, and consider the circumstances. Continuing, Mr. Liverseege said that in the process for compound liquorice powder no attempt was made to determine sugar except by weight. the difference in the extractive in the tincture of compound liquorice-powder would be due to the strength of the alcohol used. He used the strongest methylated-spirit.

Mr. GADD: I used 70-per-cent. alcohol.

Mr. LIVERSEEGE said he had made no experiments in the solubility of sublimed sulphur. The process was only suggestive. As to tous-les-mois supplied for arrowroot, he could only say that under the Acts substitution and adulteration are the same thing. He reminded the audience that a public analyst cannot analyse drugs until they are sent to him. If pharmacists would send a note to the inspector in cases where they know such fraudulent things are being done as selling red-lead for red-precipitate ointment, the case would be attended to. In reply to Mr. Jones, he would ask, "What is a herbal pill?" Probably if a case came into court plenty of evidence might be forthcoming to prove that herbal pills generally contain mineral matter. He touched on "paregoric substitute," and said that labelling a sample "Substitute" did not act as a protective. Camphorated oil is in the B.P., and to produce the B.P. would be strong evidence of what the drug should be. If, on the other hand, a formulary could be produced with another recipe, that would be evidence. As far as he was aware there is no formulary in which paraffin oil is ordered as the basis. The saffron adulterant was calendula, not safflower. Some years ago he felt somewhat disgusted with the pharmacists of the city when the saffron-adulteration cases were on. Trying to get samples of saffron the inspectors were met with the reply, "I do not keep saffron." The samples of seidlitz-powder were taken in 1900, after seidlitz-powder became a synonym in the B.P. The camphorated-oil samples taken before 1898 did not contain any foreign oil. As to the sal volatile, he did not think that carbonic-acid deficiency was due to keeping. Free ammonia might be lost, but carbonate would still be there.

A vote of thanks having been accorded to Mr. Liverseege,

The PRESIDENT called on Mr. Harrison for his paper on

The Examination of Some Commercial Malt Extracts.

By E. F. HARRISON and D. GAIR.

This paper records the results of work in which the late Duncan Gair was engaged with Mr. Harrison, and the latter submitted this paper as a fragment. Malt extract is a food rather than a medicine, and should contain more than half its weight of maltose, as well as certain proportions of the nitrogenous constituents of the grain and unaltered diastase.

The following are the analytical results obtained by the authors from the examination of thirteen samples :

Sample	Total Solids per Cent.	Maltose per Cent.	Proteids per Cent.	Diastatic Value	Remarks
I. ...	73.2	65.4	7.0	468	—
II. ...	79.8	64.4	5.0	346	—
III. ...	69.8	58.5	4.1	356	—
IV. ...	77.0	54.0	3.6	10	—
V. ...	72.3	52.1	3.8	15	—
VI. ...	95.9	82.1	5.7	89	Solid extract
VII. ...	76.8	66.0	5.4	96	—
VIII. ...	74.3	62.5	5.2	65	Considerable salicylate present
IX. ...	73.0	47.1	3.8	17	9.5 per cent. of cane-sugar present
X. ...	66.2	49.7	3.9	0	—
XI. ...	78.7	74.2	5.5	268	High maltose figure probably due to glucose
XII. ...	64.9	58.8	3.9	0	—
XIII. ...	73.9	63.6	6.6	137	—

Of these I. to VI. are widely advertised articles, sold under special brands; VI. is a so-called "crystallised" extract, in the form of a dry, somewhat granular, coarse powder; VII. to X. are extracts supplied in bulk by London wholesale houses; and XI. to XIII. are those supplied in bulk by provincial wholesale houses. No. I., which shows such a marked superiority, does not come from a pharmaceutical source at all. The paper proceeded to give the methods of analysis by which these results were obtained, and which we briefly summarise :

Total Solids.—Twenty grams of extract was dissolved in water and made up to 100 c.c., and the specific gravity of the solution determined by means of a Regnault's bottle. The percentage of total solids in the extract was found by the formula—

$$\text{T. S.} = \frac{\text{sp. gr. } 1{,}000}{3.92} \times 5.$$

Maltose.—Five c.c. of the solution as used for specific gravity was diluted to 100 c.c.; then 10 c.c. of Fehling's solution was diluted with 40 c.c of water and boiled in a porcelain beaker, and the malt solution run in from a burette until exactly all the copper was reduced. Since 10 c.c. of Fehling's is reduced by 0.0805 of maltose, the percentage of maltose in the extract is given by the expression $\frac{8.05}{m}$, where m stands for the number of c.c. used.

Proteid.—Total nitrogen was determined by the Kjeldahl-Gunning method, and the result multiplied by 6.3 was taken as proteid.

Diastase.—Dr. H. A. D. Jowett's excess of starch plan was followed, potato-starch being used. An amount of starch is taken containing 1 gram of the anhydrous substance, mixed in a mortar, with a few c.c. of cold water and poured into 65 c.c. of boiling water. The mortar is rinsed with a little more water to make 15 c.c. in all, or a total of 80 c.c. of mucilage, which is boiled for about a minute to ensure complete gelatinisation. The mucilage is then cooled to 46° C., and to it is added 20 c.c. of the same solution of malt extract, as was used for the titration of maltose. This solution contains 1.0 of extract in 100 c.c., so that the quantity of extract taken to digest the starch is 0.2 gram. The mixture is then kept at 40° C. for exactly half an hour, then boiled to stop the action going further. The liquid is then cooled and adjusted to measure 100 c.c., and 10 c.c. of Fehling's solution is titrated with this as described under maltose. From the maltose found it is necessary to deduct the maltose introduced with the extract. The calculations may be combined by the use of the following formula :

$$\text{Weight of anhydrous starch completely converted} = 1.184\left(\frac{8.05}{n} - \frac{1.61}{m}\right)$$

where n is the number of c.c. used in the last titration, m (as above) is the c.c. used in the former maltose titration, and 1.104 is the factor $\frac{100}{64.4}$ for calculating maltose into starch.

The diastatic power may be conveniently expressed numerically by the weight of starch converted by one part of the extract, or, to, avoid fractions, by 100 parts. The figures given in the table for diastase represent accordingly the percentage of starch which the extract is capable of completely converting in half an hour at 40° C. Since 0.2 gram is the weight of extract taken for the test, the above result must be multiplied by 500; or

$$\text{Diastatic value} = 592\left(\frac{8.05}{n} - \frac{1.61}{m}\right).$$

Mr. Harrison mentioned in the course of a running comment that the figures were all obtained within the last few months, and that they accorded with previous figures which he was not at liberty to publish.

Discussion.

The President thanked Mr. Harrison for bringing the methods of analysing malt extracts up to date, and asked him what methods he used for determining minute quantities of glucose in malt extract.

Mr. Cripps asked what starch was used.

Mr. Harrison : Always potato starch.

Mr. Cripps, continuing, said the results in the paper seemed to show that malt extracts have not much improved from what they were many years ago.

Mr. Mann remarked on the low diastatic power of a popular brand of malt extract, and asked why it is that malt of high diastatic power turns solid so quickly.

Mr. Umney asked whether Samples I., II., and III. went solid quickly. That is a difficulty which manufacturers have to meet. He thought the samples would be found to crystallise under two months.

Mr. Alcock asked whether Mr. Harrison had determined the alkalinity of the ash of malt extract. Solidification is prevented by adding a small quantity of carbonate of potash. A sample he had kept for some years had been fluid ever since. The same remedy is applicable to B.P. simple syrup : it prevents deposition of sugar.

Mr. Finnemore said that the medical view of malt extracts is that they are foods, and that no one need go out of his way to buy expensive malt extract while treacle is so cheap. He had found the picric-acid test for diastase useful. The precipitate forms a rough guide of the quantity of diastase present.

Mr. Cosh, referring to Sample XI., said the glucose seems to improve the diastatic value of the malt extract.

Mr. Harrison, in reply, said he could not think of a better plan of determining glucose than the phenyl-hydrozone test. Glucose gives a higher reduction than maltose. He used potato-starch exclusively. The diastase-test is purely empirical. It is necessary to use anhydrous starch; commercial starch usually contains 14 to 20 per cent. of moisture. He thought the crystallisation of malt extract is due to the conversion of dextrose to maltose continuing in the cold. The first three samples did not crystallise in three months, but some samples of the same extracts kept for eighteen months without change. He did not test any of the samples for sulphite. He did not think the picric-acid test trustworthy. Mr. Harrison added that the paper was a fragment of a bigger work, which

The President, in proposing a vote of thanks, said he hoped to see laid before the next Conference.

It was now 12.10, and the President called on Mr. Alcock to read his paper,

The Determination of the Amount of Nitrogen in some Common Drugs by the Kjeldahl-Gunning Process.

By F. H. Alcock, F.I.C.

Scattered thoughout books devoted to drugs are figures representing the amount of total nitrogen present in common drugs, but, except in a few instances, no reference is made to the process by which the results were obtained. The author has made the determinations given below by the Kjeldahl-Gunning process as follows :

> Five grams of drug was taken and placed in a ½-litre Jena glass flask and warmed gently with 40 c.c. of pure strong sulphuric acid, sp. gr. 1.843. After charring had ensued 30 c.c. more acid was added, together with 10 grams of potassium sulphate, and the whole boiled in the fume-chamber until the colour of the char gave place to a white or very pale-yellow coloured liquid, this occupying a varying period of from six to twelve hours, the final volume being about 50 c.c. Dilution with 500 c.c. distilled water followed, excess of a very strong solution of pure sodium hydrate being then added and distillation of the ammonia gas into standard normal sulphuric acid—the usual quantity being 20 c.c. diluted with 20 c.c. of distilled water, except in a few cases, where 40 c.c. of acid was used, and in two instances 60 c.c.

The time required for the distillation varied from one to two or even three hours, the rate of distillation being kept as

uniform as possible. The distillation-flask used was a litre Jena glass flask (resting upon a thin iron sand tray), and survived the whole of the operations, numbering about seventy-five, but the flasks used for the sulphuric-acid treatment occasionally gave way under the strain, and all were more or less corroded where the acid remained at the bottom of the vessel. On no occasion was bumping experienced, but frothing in the case of a few of the experiments was a sore trouble, and necessitated several repeats. The form of apparatus used for the condensation of the distillate was the usual system *plus* a column of broken glass about 9 in. long and ½ in. wide, moistened with a few c.c. of the normal acid. All tubes were of combustion glass and the stoppers were of rubber. Since operating on pepper the author learnt that in this case the whole of the nitrogen is not given up as ammonia, but the figures agree fairly well with those published. The calculation for 5 grams of substance is 0.28 × c.c. of normal acid neutralised equals percentage of total nitrogen found in the drug operated upon, and this the figures below represent :

Seeds.—Nux vomica, 1.70; sweet almonds, 3.33; macaroni almond paste, 4.22; cocoa, 3.47; linseed, 3.75; bitter almonds, 3.44; strophanthus, 4.08; roasted coffee, 2.35; Calabar bean, 3.23.

Leaves.—Indian senna, 2.24; tea, 4.06; Alexandrian senna, 2.49.

Barks.—Cassia (whole), 0.42; cassia (powdered), 0.98; cinnamon (whole), 0.75; cinnamon (powdered), 0.64; cinchona (official) 1.23; frangula, 0.70; cascara sagrada, 0.70.

Roots.—Ipecacuanha, 1.76; decorticated liquorice, 2.14; horse-powder liquorice, 1.19; exhausted liquorice, 1.12; rhubarb (E.I.), 1.68; sarsaparilla, 1.12.

Corms and Bulbs.—Colchicum, 0.95; squill, 0.58.

Wood.—Quassia, 0.44; almond shells, 0.28.

Flowers.—Chamomile, 1.3; Dalmatian, 1.49; cloves, 1.00; saffron, 1.73 (lost 21.6 per cent. at 100° C.); santonica, 2.07.

Fruits.—Cocculus indicus, 1.54; white pepper, 1.79; black pepper, 1.87; long pepper, 1.87; colocynth-pulp, 1.62; fennel, 2.57; juniper, 0.67; capsicum, 1.93; pimento, 0.92.

Juices, Etc.—Solazzi-juice, 1.9; antionelli-juice, 2.40; ext. liquorice, B.P., 1.68 (lost 26.42 per cent. at 100° C.); opium, 3.58; Cape aloes, 0.39; pale catechu, 0.67; black catechu, 0.39; kino, 0.30.

Animal.—Cantharides (1), 11.06; cantharides (2), 9.38; cochineal, 5.82; stick lac, 1.28; pepsin of the pig (Bullock's), 10.75; gelatin (1), 15.28; gelatin (2), 14.86.

Miscellanea.—Ergot, 3.16; Aleppo galls, 0.56; English galls, 1.14; lycopodium, 1.48; Iceland moss, 0.67; Irish moss, 1.12; podophyllin resin, 0.420.

Mr. Alcock had prefaced his paper with the remark that a local medical man had got him to determine the quantity of nitrogen in a lot of food-stuffs, and when the work was finished he (Mr. Alcock) used the same apparatus to determine the nitrogen in about ninety samples of drugs. He also stated that he had only used one flask for the whole series of experiments, which showed the superiority of Jena glass for such work. An experiment with indigo is not yet finished.

Discussion.

The President referred to Mr. Alcock as an old contributor, and said the Conference welcomed such papers.

Mr. Wakefield, referring to a remark of Mr. Alcock's as to the prices of solazzi and anticnelli juices, said the latter was the cheaper.

Mr. Liverseege said the results would be most useful. He had used steam-distillation for some time, and drew a sketch of his apparatus on the board, showing the precautions taken for trapping ammonia and preventing loss.

Mr. Harrison said he finds that a small quantity of mercury shortens the time of distillation. A determination can be done inside an hour. The colour should be allowed to disappear, and the work continued about half an hour afterwards. Zinc prevents bumping, so prolonging the life of the flask, and prevents boiling over.

Mr. Tyrer said that workers are often struck with the discordance of the Kjeidahl process; but it is easy to see that if such an apparatus as described by Mr. Liverseege were not used there would be plenty of scope for escaping ammonia. The plug of cotton-wool at the outlet was a capital idea.

Mr. Knight said the high figures for old cantharides would be due to the development of ammonia. Mr. Alcock must be a bold man to advocate the use of Jena glass in Birmingham. (Laughter.)

Mr. Alcock, in reply, said he had tried all kinds of glass, and concluded that the expensive Jena glass is the best. He had tried the addition of a small quantity (0.15) of ferrous sulphate for shortening the time of distillation. The time is cut down so much that he was alarmed, and did not feel confidence in bringing it forward till it has been thoroughly tried. Mr. Alcock also drew his apparatus on the board. He uses combustion-tubing, and is satisfied that the figures he gives are correct, as they are all the result of duplicate determinations.

A vote of thanks having been given, the President asked Mr. Gerrard to read his paper.

On a New and Simple Method of Moulding Bougies.

By A. W. Gerrard.

In this note the author stated that all that is required for moulding urethral bougies is a few pieces of glass tubing of even bore, a piece of glass rod to act as a piston, and a piece of rubber tubing to act as a suction-tube. The glass tubing should be in about 8-in. lengths, having as near as possible an internal bore equal to the circumference of a No. 9 catheter. The glass piston-rod should be 12 in. in length and of a circumference to pass easily through the tubes. A piece of rubber tubing 18 in. long should fit easily over the glass tubes. The method of operating is as follows :

> Having prepared the melted and mixed ingredients in the usual manner, place in the mixture one of the glass tubes, to which is attached the suction-pipe, and by means of the mouth draw up the melted mass to the required height in the glass tube, promptly pinch the rubber tubing, so as to hold up the fluid, then transfer quickly to a vessel of iced water, or to water cooled by a freezing-mixture. Having filled a series of tubes, six for example, the bougies may at once be forced from their moulds by means of the glass rod and cut to the required length. To give the bougies a rounded point they may be held carefully with a piece of clean cloth, and one end twisted round between the fingers and thumb of the right hand until the point is formed.

Every part of the operation is simple and easy, needing but little practice. The cleaning of the moulds is best done by placing them in hot water, and on removal draw through them a pledget of cotton-wool fixed to a thin wire. As a simple cooling-mixture, where ice is not to be had, a few ounces of sulphate of soda dissolved in 10 oz. of water will be found effective. Delivery of the bougie from the mould is facilitated by adding 5 per cent. each of beeswax and lard to the cocoa-butter base. Suppositories can be made by the same method, using wider tubing.

At the end of the paper Mr. Gerrard said that since writing the paper he had been informed by the Editor of The Chemist and Druggist that a note bearing on this method appeared in "The Art of Dispensing." He was not aware that the method had been published, but it was necessary that the fact should be mentioned. However, he thought that the publication of his paper in the "Year-book of Pharmacy" would be of advantage.

Discussion.

Mr. J. R. Hill said he had used the method twenty years ago, and it is in common use in Edinburgh.

Dr. Symes said that not only bougies, but suppositories and pessaries of special size, can be made by this method.

Mr. Gadd said he did not claim to be an expert in dispensing, but he thought that wax added to cocoa-butter would retard its solubility.

Mr. Jones (Birmingham) said he had used the tinfoil moulds, but that Mr. Gerrard's method seemed an improvement.

Mr. Gibson (Wolverhampton) said he found it advisable to clean the tube first, so that the mass does not adhere.

Dr. Walsh said the paper was of a type that should be encouraged, as there is nowadays a tendency to spoon-feed apprentices. Some assistants even expect machine-cut powder-papers, and are not able to cut them without ragged edges.

Mr. Knight said he had used a similar method, but the suction part was a decided advantage.

Mr. Southall said he remembered the first introduction of suppositories and what a lot of trouble it was to get a good working process.

Mr. Gerrard, in reply, said the method was the best and cheapest he knew.

A vote of thanks was given, and the next paper taken was

Note on the Determination of Fibre in Drugs.

By Henry Williams Jones.

In the microscopical analysis of powdered drugs the author has found it advantageous to supplement the examination of the original powders by a further examination of the residues left after treatment with acid and alkali as generally used for the determination of fibre. By this means the bulk of the powder is so diminished that small percentages of foreign bodies, as ground olive stones, are clearly observable. The tissues, freed from the usual cell-contents, stand out in a well-defined manner, and are readily stained with fuchsin and other agents. The amount of woody fibre can also be weighed and compared with that obtained from a standard sample. Little attention has been paid to the percentage of fibre in drugs, judging from published results, which differ widely. For the purpose of "concentrating" a powder the author uses a modification of the acid and alkali method (here called "ammonia method"), viz. :

Treat 1 gram of the powder in a porcelain dish with 20 c.c. of water and boil for three minutes, preferably on an iron plate. Add 50 c.c. of 10 per cent. sulphuric acid, and continue boiling for one minute. Place on the water bath and treat for two hours, adding water to replace that lost by evaporation. The aperture of the water-bath should be of a sufficient size so that the whole contents of the dish are kept fully heated. Collect the insoluble residue on dried and tared acid-washed filter paper, free from ash. Remove all traces of acid by washing with water. Drain, and cover the funnel with a watch glass, using several amounts of strong liquid ammonia (0.880) until the filtrate appears colourless. This part of the process should not be hurried. Treat with alcohol (90-per-cent.) to remove a further amount of soluble matter, and wash with more of the spirit. Use ether for the final washing; dry at 100° C. Cool and weigh in a closed tube.

The figures appended, and obtained with three genuine commercial samples, show the capabilities of the process :

Percentage Results	Pepper	Gentian	Liquorice
Acid treatment	9.1	26 0	23.4
Acid and alkali	5.5	12.6	19.1
Ammonia method ...	5.7	15.7	24.2

Mr. Jones explained that the purpose of the paper was to find the constant for vegetable powders.

Discussion.

The President said the method was capable of wide application, and he hoped Mr. Jones will extend his researches.

Professor Greenish said it is a great advantage in microscope-work to get rid of the starch which obscures the cellular features. He had used a similar process with chloral hydrate as a clearing-agent. He only used the method qualitatively and dried the powder in a centrifuge, thus avoiding contamination by fibres from the filter-papers.

Mr. Jones, in reply, said he had brought the process forward from the quantitative point of view rather than as a microscopic method.

It was now one o'clock, and the Session adjourned.

Fourth Session.

It was again 2.25 p.m. before the session was resumed. There were only about a dozen present when the President called upon Mr. Peck to read Mr. Brunker's paper.

Analysis of Pharmaceutical Preparations.

By J. E. Brunker, M.A. (Dublin).

In this communication the author submitted the results of examination of galenical preparations supplied to the Irish Medical Charities last year. The averages obtained are in close agreement with those observed hitherto, and represent supplies which were during the year of a more uniform character than usual. It will be found that the average alcoholic strength of tinctures is slightly higher than in 1904, when it was affected by a cause which has since been removed. Out of 9,455 samples of drugs examined during the year by the Union analysts, only 231, or 2.43 per cent., were rejected. Most of those were only defective in a very slight degree. This indicates that medicines of uniformly good quality are supplied for the treatment of the sick poor in Ireland. The results are here set forth :

Nature of Medicines	No. of Samples	Found Defective	Extractive Grams in 100 c.c.	Alcohol by Volume per Cent.
Tinctures—				
Aconiti	6	—	1.45	66.6
Asafetidæ	2	1	10.15	66.89
Aurantii	52	—	2.1	74.0
Belladonnæ	33	—	0.95	60.3
Benzoini comp.	32	3	17.7	74.7
Buchu	43	1	4.0	57.0
Calumbæ	97	1	1.19	56.4
Camphoræ comp. ...	466	7	0.39	58.6
Cannabis indicæ... ...	4	—	3.88	87.0
Cantharidis	7	—	0.25	87.4
Capsici	19	1	1.19	67.8
Cardamomi comp. ...	114	—	7.06	56.0
Catechu	26	2	16.4	52.9
Chloroformi et morphinæ	50	3	32.8	44.8
Cinchonæ...	73	2	6.28	65.0
Cinchonæ comp. ...	87	—	5.5	64.4
Colchici	6	—	3.31	43.4
Digitalis	155	3	3.79	55.1
Ergotæ ammoniata ...	8	1	5.1	52.8
Ferri perchloridi ...	154	7	—	22.6
Gelsemii	6	—	1.26	55.0
Gentianæ comp.... ...	238	2	5.56	43.4
Guaiaci ammoniata ...	2	—	16.25	73.0
Hydrastis	11	—	2.27	57.2
Hyoscyami	101	8	3.36	43.4
Iodi	39	—	—	86.0
Jaborandi	6	—	3.56	42.3
Jalapæ	11	1	5.6	67.0
Kino	7	1	23.9	47.9
Lavandulæ comp. ...	16	—	0.57	88.3
Lobeliæ ætherea ...	9	—	1.68	63.6
Myrrhæ	12	—	5.3	85.0
Nucis vomicæ	153	13	2.6	63.1
Opii	158	4	3.87	43.15
Podophylli	8	—	3.5	87.5
Quininæ	23	—	3.85	73.5
Quininæ ammoniata ...	54	—	—	54.0
Rhei comp.	62	—	16.65	51.4
Scillæ	104	2	12.06	53.4
Senegæ	107	4	6.4	55.2
Sennæ comp.	18	—	11.17	39.0
Stramonii...	11	—	4.13	42.7
Strophanthi	6	—	0.66	68.6
Valerianæ ammoniata ...	15	2	4.12	53.7
Zingiberis	54	—	0.53	68.4
Liquors—				
Calumbæ conc.	89	4	4.4	19.5
Hamamelidis	24	4	0.04	17.2
Iodi fortis	22	4	—	72.7
Picis carbonis	5	1	5.0	81.0
Quassiæ conc.	68	3	0.36	20.0
Rhei conc.	13	—	12.25	18.37
Sarsæ conc.	13	—	11.36	20.6
Senegæ conc.	58	—	12.14	22.8
Sennæ conc.	10	—	13.13	20.6
Liquid extracts—				
Cascaræ sagradæ ...	264	7	23.6	18.5
Ergotæ	83	3	15 6	31.0
Glycyrrhizæ	21	3	42.27	18.4
Opii	8	—	3.2	18.0

From the foregoing it appears that out of 2,665 tinctures 69 were defective, of 302 liquors 15, and of 376 liquid extracts 13.

Discussion.

Dr. Walsh explained that Mr. Brunker, in his capacity as official analyst to the Local Government Board of Ireland, has a great number of these samples passed through his

hands during the year. He (Dr. Walsh) had no doubt that members of the Conference would find these tables of tests of considerable value. With regard to compound tincture of benzoin, to which reference had been made that morning, it was interesting to note that the amount of extractive found by other authors and by Mr. Brunker were practically in agreement.

Dr. Symes said the tables were extremely valuable, as they showed the results of drugs supplied to public institutions at competitive prices, and showed that the wholesalers had done their duty to the public in supplying good drugs at low costs.

The thanks of the Conference were tendered to Mr. Brunker, on the motion of the President.

Mr. Peck then read the following paper :

Some Recent Chemical Discoveries in the Eucalypts.

By Henry G. Smith, F.C.S.,

Assistant Curator, Technological Museum, Sydney, Australia.

Perhaps no genus of plants is so rich in distinct chemical constituents as is that important section of Australian trees, the eucalypts, and in no group is the determination of these constituents more helpful in the botanical arrangement and classification of the several species. The knowledge obtained by chemical investigation aids considerably in determination of doubtful species, and often fixes as distinctive characters which might be considered as of little consequence morphologically. The knowledge thus gained is also of considerable economic value, as each well-defined species appears to give always the same chemical constituents whatever the conditions of growth. In association with his colleague (Mr. R. T. Baker, the Curator) the author has done much phytochemical work on the eucalypts, and they were ably by the results to point out the correlation between the venation of the leaves of the several species and the chemical constituents of the plant. This applies to the oil obtainable from the leaves and to the kinos or astringent exudations. The differences observed are not accidental, but the outcome of a well-defined process of evolution, and so constant have the characters been found to be that it was possible to suggest, from the study of the botanical characters of a tree growing nearly 3,000 miles away, what the chemical constituents of the plant would be, and subsequent investigation completely supported that original suggestion.

Kinos or Astringent Exudations.—One aspect of this question particularly interesting to pharmacists is that by running down the genus species are found exuding kinos, which do not gelatinise in tinctures. The best product, chemically, is that from *E. microcorys*, but it cannot be obtained in commercial quantities. The next best is that of *E. calophylla*, and this species exudes kino in large quantities, and it can be supplied in ton lots if required. The product of *E. rostrata* is not so good, as it gelatinises eventually, and is not nearly so astringent. The explanation of gelatinisation is that there are two (if not three) well-defined tannins in these kinos. One of these gelatinises in tinctures more readily, perhaps, than does any other tannin. This is characteristic of the kinos of those eucalypts known as the "stringy-barks," the "peppermints," and a few others, and it also occurs as a tannin glucoside in the kinos of the "iron-barks" and allied species. This tannin is coloured violet by ferric chloride. The glucoside was long supposed to be gum, but gum does not occur in the eucalypts. The other tannin does not gelatinise in tinctures ; this is coloured green by ferric chloride ; but it is difficult to find it occurring sufficiently free from the other tannin to form a non-gelatinisable kino, and in only a few species does it occur in this condition. The evolutionary process of the genus is marked in another direction by the kinos. In some of the early members the crystallisable body found in the kinos is aromadendrin alone, but soon another crystallised body introduces itself; this is eudesmin, and although eudesmin continues to increase as the genus descends, until it is found in considerable amount in some species known as "boxes," yet the other body, aromadendrin, is always present. A remarkable circumstance connected with these bodies is that the colour reactions given with concentrated nitric or sulphuric acid are quite opposite—a yellow colour is given by nitric acid with one body and red with the other, and just the opposite with sulphuric acid, so that it is possible to determine the absence of either aromadendrin or eudesmin the one from the other.

Oxalic Acid.—It seems possible that oxalic acid may be obtained very cheaply as a by-product from the barks of certain species of eucalypts where it occurs as calcium oxalate, as much as 16 per cent. being present in some species. It probably could not be profitably extracted from species containing no other commercial constituent, but in the bark of *E. salubris* a considerable amount of a tannin is present which has excellent tanning qualities. This could readily be extracted, to form a tannin extract, and from the residue the calcium oxalate could be extracted by dilute hydrochloric acid, precipitated by ammonia, and the impurities removed (if necessary) by acetic acid. A comparatively pure product is thus obtainable, from which oxalic acid could be prepared by the usual methods. The presence of oxalate probably accounts for the origin of the "mallees" or shrubby forms of the eucalypts, this being due to the poisoning effect of a continually increasing amount of oxalic acid in the plant. This mallee form is perhaps a stage in the ultimate extinction of the species. Again, it is only those species which have peculiar chemical and botanical characters that appear to form "mallees"; the "peppermints" and the "stringy-barks" do not seem to take on the "mallee" form of growth, and these trees are allied to the largest eucalypts on the Continent.

Oils.—The author suggested that by an improved method of first distillation, and by collecting the more volatile products alone, considerably improved medicinal oils are obtainable, much richer in eucalyptol and almost free from the higher boiling and more objectionable bodies. The recent discovery of limonene (60 per cent.) in the oil of *E. Stageriana*, together with citral (16 per cent.) and a geraniol (12 per cent.), makes this oil of possible use as a flavouring-agent, or in other directions; and the discovery of geraniol in large amount in the oil of *E. Macarthuri* (60 and often 73 per cent. of ester) makes this species of some importance as a source of geranyl-acetate, if not of geraniol itself. Citronellal has long been known as the principal constituent of *E. citriodora* oil, but a new aldehyde, aromadendral, has recently been isolated from several eucalyptus oils. It was originally thought to be cumin aldehyde. It is a common constituent in the oils of the "boxes" and allied species, and causes these oils to be lævorotatory, the terpene phellandrene not occurring in the oils of this group. The constituent which gives the odour of peppermint to many of these oils has been isolated, as has also the constituent which is the source of the amyl alcohol found in eucalyptus oils.

Discussion.

The President said Mr. Smith was an authority especially on the chemistry of the eucalypts. The late Mr. Bosisto sent him (the President) some years ago a sample of eucalyptus kino which did not gelatinise. From what species the kino was derived he could not remember. He understood that the difficulty is in being quite certain that any given shipment actually consists of a kino from a definite species. If we were certain that *Eucalyptus calophylla* could be shipped to us unmixed, its use would undoubtedly be an advantage.

The next paper taken was—

Notes on Some of the Liquid Extracts.

By D. B. Dott, Ph.C.

The author called attention to the variety of the official methods for preparing liquid extracts, quoting belladonna, cinchona, ipecacuanha, nux vomica, hydrastis, and taraxacum as examples. There could be no objection to the multiplicity if a real advantage were in each case gained; but he maintained that it is unnecessary and, on the whole, to be deprecated. He would use 60-per-cent. alcohol, with simple percolation, or maceration and pressure, as required, in nearly every case, and added the following notes :

Belladonna-root is more readily exhausted by 60-per-cent. than by 80-per-cent. alcohol. The powder, being of a bulky, spongy nature, does not favourably lend itself to re-percolation. It is better to macerate and press.

Cinchona-bark is much more readily extracted by 60-per-cent. spirit than by the official menstruum. In this case it

is well to add 1 per cent. hydrochloric acid with the first maceration, distil off the spirit, and make up to the volume indicated by the alkaloidal assay, using one-tenth volume of glycerin and one-fifth volume of alcohol.

Hydrastis rhizome is better extracted by 60-per-cent. alcohol than with the official 45 per cent.

Ipecacuanha readily yields its alkaloids to 60-per-cent. alcohol. The treatment with lime is in this method wholly superfluous. After practical exhaustion with 60-per-cent. spirit, addition of lime and percolation with strong spirit gave the merest trace of alkaloids.

Nux vomica, when in a properly prepared coarse powder, gives up its alkaloids as readily to 60-per-cent. as to 70-per-cent. alcohol, and with the distinct advantage that less oil is extracted by the weaker spirit.

In all the above cases the corresponding tinctures may conveniently be made by dilution of the liquid extract with 60-per-cent. alcohol.

The author considered that it is not practicable to adopt a uniform method of alkaloidal estimatien, yet the present processes may with advantage be simplified and brought more into line. All the more important alkaloids in the extracts referred to are easily dissolved out by a mixture of chloroform and ether, so there is no need for varying the solvent employed. In the instances of belladonna, cinchona, and ipecacuanha the alkaloids can be well enough estimated by titration with standard acid. The difficulty that the different alkaloids in the same extract have not the same molecular weight is more a theoretical than a practical objectien. A mean weight derived from the proportions of alkaloid probably present is sufficiently accurate. In the case of nux vomica the modification of the nitric-acid method devised by Farr and Wright gives excellent results.

Discussion.

The President said there was much food for thought in the paper which they might profitably consider and discuss.

Mr. Cripps agreed with Mr. Dott that the use of lime in the preparation of liquid extract of ipecacuanha is quite unnecessary, and the use of a weaker spirit than 90-per-cent. alcohol is preferable for the extraction of that drug. He would not put it so low as 60 per cent., his best results being obtained with 70 per cent. He did not agree that 60-per-cent. alcohol for belladonna is desirable.

Dr. Symes thought Mr. Dott's wish to increase the strength of menstruum to perhaps two strengths was rather retrograde. He had not proof before him to rebut Mr. Dott's statement, but he felt sure that by alteration in the strengths of spirituous menstrua more efficient extraction had resulted.

Mr. Alcock said the lessening of the strength of the alcohol would be deleterious, for the greater the quantity of extractive in liquid extracts the greater the sediment formed in time.

Mr. Gerrard said the solvent for a particular drug should be ruled by circumstances. The processes of the Pharmacopœia are unnecessarily complicated, and might very well be simplified.

Mr. John Lothian asked whether Mr. Dott had made any comparison of the amount of extractive obtained with different strengths of alcohol. He had found that in a great many instances belladonna preparations do not come up to the B.P. standard. Some belladonna liniment he recently examined was apparently a coloured solution of atropine. There ought to be some method of making sure that these preparations are actually preparations of the plant.

The President asked whether Mr. Dott had any experience of the keeping properties of acetic preparations containing alkaloid. An American author has stated that the alkaloid in acetic extract of ipecacuanha hydrolises.

Mr. Dott, in his reply, said it might be necessary that certain preparations should be concentrated by the addition of more alcohol. The old formula for the acetic extract of ipecacuanha was a difficult, slow, and unsatisfactory one. He had no special experience with regard to the action of acetic acid upon the alkaloid. He thought, in spite of what had been said, that in these preparations better results could be obtained by the menstruum he recommended.

Thanks were accorded to Mr. Dott for his paper.

The next paper was a

Note on Ammoniated Mercury.

By Thomas Tyrer, F.I.C., F.C.S.,

The author deplored the looseness or want of definition which is apparent in several cases in the Pharmacopœia, especially in view of the fact that the B.P. is gradually being regarded as the legal standard to which drugs and medicaments should conform. As an example, the formula given for ammoniated mercury—$HgCl.NH_2$—was quoted as being that upon which evidently the percentage of mercury is calculated, the calculation not being founded upon experimental work. The B.P. gives 78 to 79 per cent. as the yield on "being heated with excess of lime." This method has several times been shown to be defective by C. T. Tyrer (1901), Umney and Bennett (1900), and Bernard F. Howard (1904). The last-named, in his paper before the Society of Chemical Industry, showed that the hypophosphorus method is reliable and could be well adopted as official. Commercial and saleable samples may legitimately vary between 75.5 and 77.32 per cent. The reason for this variation is, in all probability, the presence of ammonium chloride, which is found in all commercial ammoniated mercury. This leads to the point of this note—the directions in the B.P. that the precipitate should be washed well with cold distilled-water "until the liquid which passes through is free from chloride." There is here no allowance for commercial conditions and for the fact that ammoniated mercury is an unstable body undergoing decomposition by prolonged washing, and by quite moderate heat, and by exposure.

Experiments were made as to the action of water in washing until no indication of chloride is obtained, and an increasing deterioration of the colour of the precipitate resulted. One gram of the dried salt was digested with frequent agitation for two hours with 1,000 c.c. of distilled-water, while another gram was digested with 100 c.c. The former gave chlorine equal to 13.2 c.c. of $\frac{n}{10}$ silver nitrate, the latter equal to 4 c.c. of $\frac{n}{10}$ silver nitrate, thus proving that the decomposition varies with the amount of water employed. Two grams of ammoniated mercury was extracted on a filter with successive quantities of 10 c.c. of cold distilled-water, and after twenty washings still showed the presence of chlorine, while the salt had become distinctly yellow. Such a salt, when dry, would be unsightly and unsaleable. In the case of ammoniated mercury, the B.P. directions for testing contain a contradiction, as the powder would not be white if the salt had been washed free from chloride. This matter the author hopes to elucidate before the next Conference.

Discussion.

Mr. E. White said Mr. Tyrer's results were correct so far as his experience went.

Mr. J. C. Umney said Mr. Tyrer had stated what the standard ought to be, but he ought to give likewise the process.

Mr Tyrer briefly replied.

Mr. Edmund White then gave a *résumé* of two papers by Mr. J. F. Tocher, viz. :

The Detection of Citrates and Tartrates.

By J. F. Tocher, F.I.C.

In carrying out the separation of nickel and cobalt by means of alkaline tartrate, the bright colour and sparing solubility of tartrate of cobalt were noted. Nickel salts undergo no intensification of colour on the addition of a tartrate. If, instead of passing H_2S through the solution, excess of soda or potash is used, the colour of the cobalt tartrate is discharged, and a clear solution is obtained if cobalt alone be present, while a greenish precipitate and green solution are obtained if nickel alone be present. On boiling the alkaline tartrated cobalt solution, a deep blue colour was developed, which disappeared on cooling and reappeared on again warming the solution. The behaviour of citrates is different. On adding excess of alkali to a mixture of an alkaline citrate and a cobalt salt, a deep blue solution is immediately produced. The behaviour of twenty-eight inorganic acids with the alkaline cobalt reagent was noted, and in no case was the reaction similar to either the tartrate or citrate reactions. The action of cobalt and alkali

on fourteen organic acids was noted, and it was found that malic acid gives a blue solution in the cold similar to what citric acid does. Since tartaric, citric, and malic acids are all hydroxy-carboxylic acids, their behaviour with cobalt and alkali seems to have some connection with the hydroxyl groups of these compounds. The reaction has no connection with the asymmetry of the molecules, since optically inactive racemic acid gives precisely the same reaction as dextro-tartaric acid, while malic acid is optically active and citric acid is inactive, and both these act similarly with the reagent. Since malic acid is distinguishable from citric acid in a variety of ways, the properties of the malates of lead, calcium, and ammonium being prominent, their similar behaviour with cobalt and alkali merely serves to group them for more ready identification. The following table may prove useful to students and others interested in qualitative analysis :

Table for Tartrates, Citrates, and Malates.

Concentrated Sulphuric Acid and Heating gives :		
A charred mass. Tartaric acid.	A yellowish solution. Citric acid.	A dark solution. Malic acid.
Add a few c.c. of cobalt nitrate solution and then excess of solution of sodium hydrate.		
A fine red solution is formed on adding cobalt nitrate, which is discharged to a clear solution by sodium hydrate. On boiling a deep blue solution is produced, which fades away on cooling. =Tartaric acid.	A deep blue solution results. A precipitate is produced on boiling neutral solution with calcium chloride. =Citric acid.	A deep blue solution results. No precipitate on boiling neutral solution with calcium chloride. Heat small portion with dilute sulphuric acid and potassium dichromate. Odour of ripe fruit. =Malic acid.

The Activity of Pepsin after Brief Contact with Certain Inorganic Compounds.

By J. F. Tocher, F.I.C.

This communication consisted of a critical examination of the more recent observations (chemical and physiological) on albumen and pepsin, to which was added an account of experiments by the author that have resulted in the following conclusions as regards pepsin :

1. Solutions of sodium bicarbonate, sodium, potassium, and ammonium hydrates when added to solutions of pepsin in the cold have an immediate inhibitory or destructive effect on pepsin, according to the concentration. In ordinary concentrations the effect is to destroy the enzyme immediately.
2. Dilute solutions of caustic alkali immediately destroy the activity of dilute solutions of pepsin. 1 c.c. of deci-normal ammonia (0.0017 gram NH_3) is quite sufficient to destroy the proteolytic power of 5 mm. of pepsin in 10 c.c. of water. That is, a 0.1 per cent. solution of pepsin with an alkalinity equal to 0.017 per cent. has no proteolytic power whatever. On acidifying and digesting, the enzyme is found to be destroyed. Pepsin should therefore never be prescribed with alkalies.
3. Carbonate of bismuth precipitates pepsin from aqueous solutions; subnitrate of bismuth does not.
4. Compound mixtures containing solution of bismuth, morphine, carmine, etc., should contain no pepsin, since the activity of the enzyme is much retarded by the morphine, and is destroyed proportionally to the amount of alkali present in solution.

Discussion.

Mr. J. R. Hill referred to a recent case in which a medical man prescribed an alkali mixed with pepsin. It was well known in medical practice that an alkali might be prescribed along with pepsin, provided the mixture be taken an hour or so before food; the peptic glands would thus be stimulated and produce an acid medium. In the particular instance referred to, the medicine was to be taken after food. He (the speaker) had examined recently a large number of samples of mistura bismuthi co., and in every case he found them distinctly alkaline—viz., as much as 5.12 per cent. of free ammonia, a quantity Mr. Tocher had found sufficient to destroy the proteolytic power of the pepsin in all these samples. He was astonished to find very much more than the trace of free ammonia allowed by the Pharmacopœia.

The President said that Mr. Hill had voiced the members' high appreciation of the papers.

Concluding Proceedings.

The President said while no doubt it was a relief to have reached the close of the deliberations on the scientific papers, he was sure they would admit that they had had a most useful set of papers, and he was extremely happy to feel that they had had sufficient time to deal with them and that they had discussed them, he hoped he was right in saying, thoughtfully, deliberately, and they believed to the great advantage not only of themselves, but to the satisfaction of those who had presented them. Now they came to the general business and the closing scenes. In the first place, he wished to draw attention to the complete programme which had been provided by the Pharmaceutical Society through its editor. This had immensely facilitated their business during the last two days, and he moved a vote of thanks for it.

Mr. Peck seconded, and the motion was passed.

Presentation to Local Association.

The President next made the usual presentation of books from the Bell and Hills Fund to the Midland Pharmaceutical Association. The books are U.S. Pharmacopœia, German Pharmacopœia, Greenish's "Microscopical Examination of Foods and Drugs," Hewlett's "Bacteriology," Luff's "Forensic Medicine and Toxicology" (two volumes), Remington's "Practice of Pharmacy," Bernthsen's "Organic Chemistry," Ganot's "Physics," and Strasburger's "Botany." These volumes he handed over to Mr. A. W. Gerrard, President of the Midland Pharmaceutical Association.

Mr. Gerrard, in reply, said it afforded him great pleasure to accept the volumes. He had the privilege of knowing Mr. Hills personally. They had, he added, 500 books in the local library, and they were accommodated in the University.

Manchester Next.

Councillor Kemp (Manchester), on behalf of the Manchester Pharmaceutical Society, tendered an invitation to the Association to hold the next Conference in that city next year. He mentioned that twenty years ago he made his first acquaintance with the Pharmaceutical Conference at Birmingham, which he attended as one of a deputation from Manchester. He regretted that Mr. Woolley, the President of the Manchester Association, was absent in Norway, and that consequently the duty fell upon him of extending the invitation to the Conference. His object was to repeat the invitation which was given twenty years ago. It would be useless to offer any inducement such as to say that Manchester was an ideal health resort. (Laughter.) At the same time he might say that it was not as black as it was painted, and if they could not offer some of the great attractions that had been offered in other districts, such as Brighton—where they went last year for the brilliancy of its sun and the beauty of its waters—they had many things which would interest them. It was almost entirely a city of industry—in fact, a work-a-day city—and they would have something to show them which could not fail to be interesting and profitable. Manchester was generally spoken of as purely and simply a cotton district. Certainly it was the centre of the cotton industry, but it was also the largest engineering centre in the world. They were proud of many things which they as a community possessed. Manchester had been the pioneer in many things municipally. They were the first community to bring a supply of pure water from a distance of ninety miles to their city, and he was very pleased to know that Birmingham and Liverpool had followed suit. (Laughter and applause.) They had seen the utility of that step. He could only say that if the Conference accepted the invitation they would have a right North-Country welcome. (Applause.)

Mr. Kirkby, in supporting the invitation, said Manchester had not much in the way of natural scenery to offer them,

but they had the Ship Canal, and they hoped to show them something of their numerous industries. In times past Lancashire had a reputation for churlishness, and usually they did not welcome strangers to their business-establishments unless they were ladies or clergymen. He hoped that by next year they would have overcome that churlish spirit and would obtain access to some of their industrial treasures. It was customary to claim for Manchester the position of second city in the country, but, whether correct or not, he could claim that Manchester would be second to none in its desire to make their visit to that city pleasant and agreeable.

Mr. Pidd, who also supported the invitation, said that if accepted his services and those of every member of the Manchester Executive Committee would be placed at their disposal.

Mr. Johnstone also supported the invitation, pointing out that in addition to the attractions mentioned, Manchester had a large number of public institutions that had grown up into importance. Among others, he might mention the University and the Technical Schools, which were the finest in the world.

Mr. Wells moved that the cordial invitation to visit Manchester be accepted. He could do so with confidence, because it was his pleasure to attend the Conference in that city nineteen years ago, and he had a very pleasant remembrance of the kindness of the reception accorded to them.

Mr. J. P. Gilmour seconded the resolution, which was carried unanimously.

Election of Officers.

Mr. Hobbs proposed that the following officers be elected for the year 1906-07 :

President.—Mr. Thomas Tyrer, F.I.C., F.C.S.

Vice-Presidents.—Messrs. R. A. Robinson, D. B. Dott, F. Ransom, G. S. Woolley, Dr. J. A. Walsh, and Professor Greenish.

Hon. Treasurer.—Mr. J. C. Umney.

Hon. Secretaries.—Messrs. E. S. Peck and Edmund White.

Local Secretary.—Mr. W. Kirkby.

Executive Committee.—Messrs. F. H. Alcock, H. Finnemore, H. W. Gadd, A. W. Gerrard, D. L. Howard, H. Kemp, W. Martindale, C. Thompson, and J. F. Tocher.

Mr. Hobbs referred to several of these gentlemen, saying of Mr. Tyrer that he would worthily fill the new position to which he is called, and that in selecting Mr. Tyrer they were strengthening the position of the Conference.

The President added a word or two in support. He congratulated the Conference upon its choice.

Mr. Tyrer, in acknowledging, said he was satisfied from his long experience of the Conference that the co-operation of the officers and committee was largely the cause of its success, and they had such a list of officers that he had great confidence in accepting office.

Votes of Thanks.

The remaining business was formal. Professor Greenish moved a vote of thanks to the Lord Mayor and the Lady Mayoress for the reception to the Conference, which he described as a brilliant function.

Mr. J. Hinton Lake, in seconding, foreshadowed a probable invitation to the Conference to visit Exeter, though he explained that he was speaking unofficially, but with the approval of the President of the local Association.

Sir Oliver Lodge, principal of the University, was also thanked for the use of the University for the purposes of the meetings.

On the proposition of Dr. Walsh, seconded by Mr. White, a cordial vote of thanks was passed to the local Executive, special mention being made of Messrs. Barclay, Poole, Thompson, Radford, and A. W. Southall.

The last resolution, a vote of thanks to the President, was submitted by Dr. Symes in a eulogistic speech, and was seconded by Mr. Tyrer.

Mr. Naylor acknowledged in a sentence or two, and took occasion to say that he could not have filled the office without having had the sympathy of the members of the Conference and the constant support of every member of the Executive Committee.

Thus ended the solid business of the forty-third meeting.

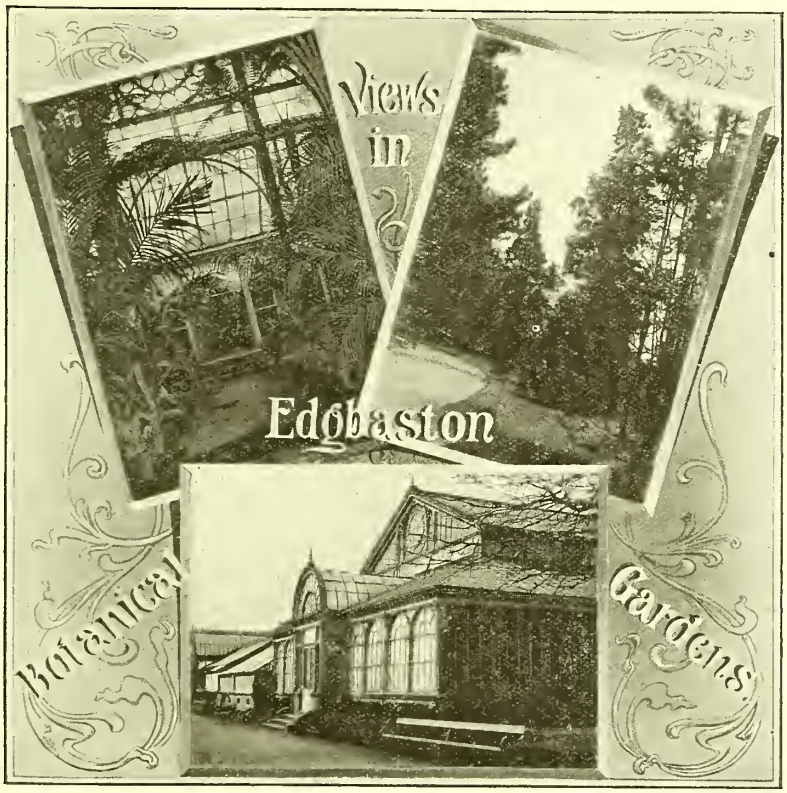
WHO WERE THERE.

These include all those who signed the attendance-book :

Alcock, F. H., Birmingham
Allmann, J. D., Ealing
Aplin, J. W., Exeter
Ashton, F. W., London
Balmforth, A., Manchester
Barclay, Mr. and Mrs. Thomas, Birmingham
Barlow, Fred, Balsall Heath
Barron, W., Cheltenham
Bayley, C., Uppingham
Beggs, G. D., Dalkey
Bennett, R. R., London
Bentley, T., Stoke-on-Trent
Blackbourn, A., Birmingham
Boorne, H. E., Bristol
Bremridge, R., London
Brewis, E. T., Leyton
Burleigh, W. M., Birmingham
Castlelow, Mr. and Mrs. W. T., Leeds
Cattell, Mr. and Mrs. J. T., Knowle
Chalmers, W., London
Clayton, C., Oxford
Clayton, Mr. and Mrs. J. W., Adelaide
Cork, A. S., Newcastle
Coverdale, A. E., Worcester
Critchlow, H., Birmingham
Crompton, H., Bury
Cross, W. Gowen, Shrewsbury
Dolbear, J., Oxford
Dott, D. B., Edinburgh
Druce, G. C., Oxford
Ephraums, R. L., Ceylon
Evans, J. H. E., Liverpool
Evans, W. P., Liverpool
Finnemore, H., London
Fletcher, F., Coventry
Francis, Alan, London
Franklin, J. H., Manchester
Freeman, Marshall W., Edgbaston
Gadd, H. W., Exeter
Gerrard, A. W., Birmingham
Gibson, Mr. W. J. and Miss, Belfast
Gilmour, J. P., Glasgow
Goldby, F., Enfield Town
Goodall, F. C., London
Greenish, H. G., London
Grice, W., Calcutta
Grier, J., Manchester
Hagon, Mr. A. and Miss, Cardiff
Hanson, J., Bradford
Harries, A. H., Birmingham
Harrison, E. F., South Croydon
Hearn, J., London
Hill, J. R., Edinburgh
Hill, T., Birmingham
Hills, J. Stuart, London
Hobbs, A. E., Tunbridge Wells
Howard, D. Lloyd, London
Howard, Mr. and Mrs. G. W., Tunbridge Wells
Humphrey, J., London
Humphreys, J., Birmingham
Hutton, J., Brechin
Idris, W. T. W., London
Jackson, Mr. and Mrs. J., and Miss, Bradford
Johnson, S. E., Moseley
Johnstone, C. A., Manchester
Jones, C., Hanley
Jones, Mr. and Mrs. H. W., Coventry
Jones, J. T., Birmingham
Kemp, Mr. and Mrs. H., and Miss, Manchester
Kirby, F. B., Bristol
Knapton, P., Sydney, N.S.W.
Knight, G. J., London
Laing, W. H., India
Lake, J. H., Exeter
Layman, C. N., London
Lescher, T. Edward, London
Lindsay Mr. and Mrs. R., Peebles
Liverseege, J. F.
Lothian, J., Glasgow
Lowther, T. W., Moseley
McJannet, Mr. and Mrs. J.
Mann, E. W., Birmingham
Marsden, P. H., Liverpool
Martindale, Dr. W. H., London
Mather, J. H., Godalming
Minchin, Wm., Gloucester
Moore, W., Assam
Morson, T. P., London
Naylor, W. A. H., London
Nicholl, Isaac W., Belfast
Ottey, T., Birmingham
Parkinson, T. W., Atherstone
Parsons, W., Beckenham
Peck, E. S., Cambridge
Perry, F., Birmingham
Perry, G. E., Birmingham
Phillips, S., Wolverhampton
Poole, J., Birmingham
Radford, James A., Birmingham
Ransom, F., Hitchin
Reavley, R., Jarrow
Rees, R. P., Dowlais
Reynolds, A. J., Lord Mayor, Birmingham
Righton, J., Southport
Robinson, Chas. E., Hove
Rowland, Mr. and Mrs. G. H. C., Edinburgh
Savage, W. W., Brighton
Sawyer, James, Kt., Birmingham
Selleck, W. R., Stourbridge
Shakespear, Wm., Small Heath
Shaw, W. A., Harborne
Silson, W., Bradford
Smith, J., Dublin
Smith, J. H., London
Smith, T. A., Birmingham
Solomon, A. H., London
Southall, A. W., Birmingham
Stevenson, Dr. John, Doncaster
Symes, Chas., Ph.D., Liverpool
Thomas, J. A., Cheltenham
Thompson, C., Birmingham
Tinnick, F., Handsworth
Tocher, Mr. and Mrs. J., Dumfries
Turner, C. W., Worcester
Twinberrow, J., Worcester
Tyrer, Mr. and Mrs. T.
Umney, Mr. and Mrs. J. C., London
Walsh, Dr. J. A., Dublin
Want, W. P., London
Watson, David, Dublin
Watson, J. E. H., Norwich
White, Mr. and Mrs. Edmund, London
White, Mr. and Mrs. J. W., and Miss, Bristol
Willcock, F. A., Wolverhampton
Willdey, W. T., Birmingham
Wilson, W. J., Moseley
Wilton, W. E., Erdington
Woodcock, B. J., Handsworth
Woolley, S. W., London
Wright, Robt., Buxton
Young, R. Fisher, New Barnet

OTHER POINTS OF VIEW.

Amid magnificent weather the Conference visited Coventry and Kenilworth on Tuesday, July 24. The reading of papers was cut short at 3.30 P.M. on Tuesday to enable the visitors to catch the 4 P.M. train for Coventry. Three or four special saloons were provided for the visitors, and the company arrived at Coventry about five o'clock. At the station fourteen brakes, char-à-bancs, and waggonettes (various) were waiting, and the company assorted themselves according to their likes and as they could be stowed away, and were driven through the quaintest narrow streets it was possible to imagine. The route was evidently purposely arranged to show the visitors the quaintness of the City. The Conferencers were driven by the "three spires" and down Priory Row, passing ancient-looking houses that seemed to have been built when Good Queen Bess was young. Eventually a fine avenue of plane-trees heralded the approach to "The Charter House," the fine old mansion of Colonel Wyley. There the guests were received at the entrance by Mr. and Mrs. Fletcher, and in the garden Colonel and Mrs. Wyley shook hands with each, and passed them on into the delightful garden. There the visitors strolled, listened to the band, inspected the fine old house, and generally enjoyed themselves. Tea and other refreshments were provided, and Colonel and Mrs. Wyley did their utmost to make the visit memorable. Colonel Wyley took a party over the entire house, which was once a priory, and the fine wainscoted rooms, the frescoed walls, and the old-world savour that clung round the entire place infected the visitors, and made them sigh for the days of old. The old garden was found particularly charming, and all were loth to leave. Before departure Mr. Naylor proposed a hearty vote of thanks to Colonel and Mrs. Wyley for their very kind hospitality. Colonel Wyley replied, and the company rather regretfully mounted the brakes and set out, with cheers for the Colonel and his lady, to Kenilworth.



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The journey to Kenilworth was through some of the finest scenery in Warwickshire, and the fine old town was reached about 7.30 P.M. The company inspected the ruins of the famous Castle, where Dudley, Queen Elizabeth's favourite, held the fort. Picture-postcards were the order of the day, and many Pharmaceutical Conferencers and their wives squatted on the green sward in front of the Castle and wrote messages to their friends at home. The waiting conveyances were once more filled, and the party was deposited at 8.25 at Kenilworth Station. A train journey of an hour brought them back again to Birmingham, tired but happy. There were a succession of merry parties on the train, and everyone declared that the excursion had not only been delightful, but was unique in the history of the Conference.

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For the views given in this page we are indebted to Mr. Thomas Barclay. This was the scene of the reception by him and Mrs. Barclay on Wednesday evening.

Smoking-concerts were held on Monday and Tuesday evenings at the Grand Hotel. On Monday evening Mrs. Edward White favoured the company with the first song, and sang very sweetly, but, with this exception, all the talent was supplied by the Scotch and Irish visitors. Mr. Wells, of Dublin, obliged twice, his first contribution being a humorous Irish song set to a somewhat mournful melody. Mr. Rutherford Hill, of Edinburgh, fairly carried away his audience in the unusual rôle of humourist, the quaint and pawky humour of the song being essentially Scotch.

* * *

Tuesday evening's concert was a more elaborate affair. The concert was kept up with vigour to an early hour in the morning, and the efforts of the various artists were much appreciated by the large assembly.

* * *

On Tuesday the ladies visited Messrs. Osler's glass-works, Broad Street. They were shown how the raw ingredients—viz., sand, saltpetre, red-lead, and alkali—were prepared, blended, and melted in the furnace. The blowing of the molten mass into such things as flower-vases, gas-globes, and tumblers was demonstrated, after which they proceeded to the showrooms, where the fine exhibition of the most graceful designs in glassware commanded admiration. Among other things shown was a champagne glass as made for the King of Italy and the Coronation cup of our own King, with the initials E.R.

* * *

Tuesday afternoon was occupied until four o'clock in visiting the electro-plate works of Messrs. Elkington & Co., Newhall Street. In the designing-room two Manchester visitors recognised a model or cast of a Manchester gentleman, Mr. R. D. Darbishire, one of the Whitworth Trustees, and the artist expressed his great pleasure at the obvious compliment which such recognition paid to the life-like character of the cast.

* * *

At the smoker on Monday, says another listener, the success of the occasion was the unexpected attraction of Mr. J. Rutherford Hill as comic vocalist. His song "The Bonnie wee Window" was the talk of the subsequent socialities. On Tuesday evening an excellent "smoker" was held in the Grosvenor Room of the Grand Hotel. Professional talent of a superior class contributed, but the favourite was Mr. Franklin (of Woolley's, Manchester), who created something of a furore at Brighton last year. Mr. Franklin sang several times, and other amateurs who contributed to the entertainment were Mrs. Edmund White, Mrs. J. C. Umney, Miss Layman, and Mr. and Mrs. Rowland, of Edinburgh.

* * *

Mr. John Humphreys, who read a paper on the flora of the Lecky Hills, is a chemist and druggist, but for the last twenty-one years has been lecturer at the Dental School of Birmingham University on dental anatomy. He states that it was the preparation of botany for the Minor that first brought out his taste for botany; from botany he passed to the study of geology and comparative anatomy. For many years Mr. Humphreys has been collecting and arranging a museum of

human and comparative anatomy, the various classes being now in first-class condition for that study. There are some hundreds of casts of abnormal mouths. During the Conference the museum was left open, so that members could spend a few minutes therein if they so desired. Mr. Humphreys is confident that his pharmaceutical training at Bromsgrove is responsible for much of his success in after-life.

* * *

Miss L. A. Little, whose portrait is here given, is one of the women dispensers for whom Birmingham is famed. Tall, graceful, lithe and dark, Miss Little is a commanding personality. She was a pupil of Miss Thompson, of the Women's Hospital, Priory, Birmingham, and afterwards took a course with Mr. F. H. Alcock, successfully passing the Assistants' examination of the Apothecaries' Society of London. For the last two years Miss Little has filled the position of chief dispenser at the Orthopædie Hospital, where she is famed for the neatness and order which prevails in her domain.

* * *

At the conclusion of the sessions on Wednesday, at 4.40 P.M., members found conveyances waiting to carry them to the new University buildings, where tea was taken. A picture of the new buildings was given in the *C. & D.* last week, Alderman Clayton's connection with pharmacy and with the University (as Treasurer) being a peculiarly happy circumstance.

* * *

The "Birmingham Evening Despatch" of Wednesday had a short editorial article *à propos* of the Conference, in which it was stated—

> . . . Every now and then we are reminded of the importance of the work committed to dispensing chemists by inquests revealing the fatal consequences of a lapse from the scrupulous care with which members of that profession commonly conduct their business. That such cases occur indicates how necessary are the efforts of the Society to maintain a high standard of technical skill; that they are very rare is no doubt as satisfactory proof of the efficiency of the methods employed. . . . Every effort organised by the members of any profession to maintain and increase professional efficiency deserves the approbation of the whole community.

The slight haziness in connecting the Conference with the Pharmaceutical Society is pretty general in the lay Press, and occurs in some of the other local papers; from their point of view the difference is not appreciable.

THE VISIT TO COVENTRY.

At the close of the business session of the Conference on Tuesday, July 24, the members visited Coventry, where, at the Charter House, they were entertained by Colonel and Mrs. Wyley. In this ancient city, rich in historic associations, the members found much to interest them.

The town is dominated by the three spires of the churches of St. John, St. Michael, and Holy Trinity—three fine, mediæval fabrics. In the old days the city was strongly fortified. It was surrounded by a wall three yards in thickness and six yards in height; the wall was surmounted by thirty-two towers and it had twelve prineipal gates. Traces of the wall still remain, and of the gates Swanswell and Cook Street gates alone survive. The destruction of the walls, it is said, was mainly due to Charles II., who ordered them to be levelled as a punishment on the inhabitants of the city for having once refused his royal father admittanee.

Another interesting relic is the Old Palace Yard, situated in Earl Street, and so called on account of the principal building, once a fine mansion, in which royal personages have in past days been entertained. The banqueting-hall, over the second gateway, is reached by an oak stairease, decorated with exquisite carving. In all there are nine staircases in this old edifice. Each is of black oak, and as specimens of the enduring work of past days they are most convincing examples.

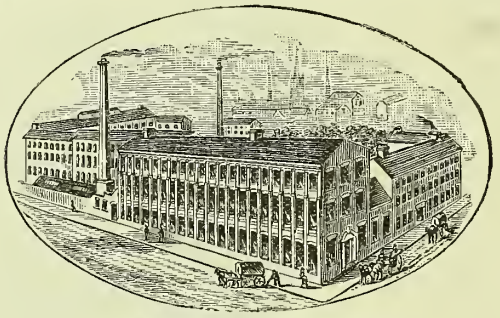
Members of an antiquarian turn of mind were deeply interested in the Cathedral remains, within a short distance of Butcher Row, an exeeedingly rare old street, in the eentre of a distriet which literally teems with ancient remains. The Cathedral remains were laid bare during the rebuilding of the Girls' Blue Coat School. There the Convent is said to have stood from which Coventry derived its name, and which was destroyed by Canutus, King of Denmark, and Edrieus, "the traitor," in 1016, during their invasion of Mercia.

St. Mary's Hall, on the south side of the church of St. Michael, is another very interesting mediæval relic. The hall, which dates back to the days of Henry VI., was devoted to the use of the trade guilds of the city.

The town was onee noted for its ribbons and watches; nowadays it is better known as the centre of the bicycle and motor-car industries.

Wyleys, Ltd.

To members of the Conference perhaps most interest centred in the visit to the manufactory of Wyleys, Ltd., wholesale druggists and manufacturing chemists, of which Colonel W. F. Wyley is the managing director. The exact date of the foundation of the business is not quite clear, but there is in the possession of the firm an old laboratory journal, begun in 1757, in which there are records of the manufacture of various galenical and chemical preparations, made on the premises. These included mercurials, antimonial compounds, liquid ammonia, extracts of belladonna, henbane, and lettuce, juices of taraxacum, buckthorn, etc. The business was then a retail establishment, and was known as "Stott's." Coventry was then a more important place even than it is to-day. It had the distinction of being a city and a county in itself. It was the centre for



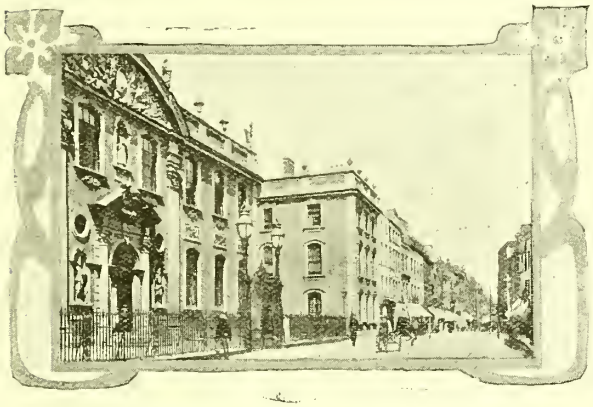
The Premises in Wheatley Street.

many surrounding townships and villages, and, by comparison, Birmingham was an insignificant townlet. Time was, indeed, when Coventry was the third largest city in the Kingdom, and it was quite natural that in such a centre a wholesale connection should arise, which Wyleys never lost an opportunity of developing. The title of the firm was subsequently changed to "Stott & Wyley," and the Wyley family have been connected for generations with the concern. The next proprietors were Messrs. John and Francis Wyley, in conjunction with Mr. Dudley Brown (who had exclusive management of the retail department), and the business was carried on under the style of "Wyleys & Brown," by which it is even now known to many of the older country chemists and surgeons of the Midlands. Both John and Francis Wyley took an interest in the business and municipal life of the city, and both were directors of the old Coventry Bank, now absorbed in the larger concern known as the London City and Midland Banking Co., Ltd., and most of the notes issued by the old bank bore the autograph signature of "Francis Wyley." Mr. John Wyley was one of the earliest pharmaceutical chemists and among the first members of the Pharmaceutical Society; while Mr. Francis Wyley qualified as M.R.C.S., L.S.A., and practised for some years as a surgeon. He was interested in the growth of medicinal plants, and cultivated belladonna and henbane on a somewhat extensive scale near his residence, the Charter House, an old Carthusian foundation, now in possession of Colonel Wyley. On the retirement of Mr. Dudley Brown, the retail establishment was closed, and the firm traded as "Wyleys & Co.," occupying an extensive warehouse adjoining the older premises, and fronting Hertford Street, in the centre of the city. Part of the original warehouse, with cement floors and huge oaken beams, remained until a few years ago, when it was pulled down and the site purchased by the Corporation for street improvements. The business steadily developed until plant and machinery for producing galenicals, coated pills, eapsules, granular preparations, and compressed pellets could no longer be augmented for want of spaee. In 1884 a new block of buildings was erected, offering greater facility for extended trade. In 1891 the firm was registered as a limited company, and the premises were considerably enlarged and fitted throughout with the most modern appliances. Some idea of the extent of the present premises may be gained from the fact that some of the larger rooms measure 150 ft. by 42 ft. Colonel Wyley, the managing director, is a son of the late Mr. John Wyley. He was

educated at Rugby, and was for some years in France and Germany gaining business experience. He is a Justice of the Peace for the county, a director of the London City and Midland Bank, and a Colonel Commandant of the 2nd Volunteer Battalion Royal Warwickshire Regiment. The other directors are Captain Wyley, Mr. F. Fletcher, and Mr. H. W. Jones, F.C.S., who has charge of the manufacturing department.

WORCESTER.

THE whole of Thursday, July 26, was devoted to a trip to Worcester and Malvern. The members and friends left Birmingham by special train at 9.30 A.M., and on arriving at the "Faithful City" proceeded on a round of visits. First they were conducted through the Worcester Royal Porcelain Works, where the famous Worcester china is made. These works are of great antiquity. They were established in 1751 by Dr. Wall, who was a clever chemist as well as a



THE GUILDHALL AND HIGH STREET, WORCESTER.

physician, and an accomplished artist to boot. At that time Worcester had neither coals nor clay, nor yet skilled hands; but Dr. Wall, by his scientific skill, succeeded in producing one of the most beautiful soft porcelains in Europe. Oriental china, which at that period was the only porcelain obtainable in china, and was very much valued, was accepted as the example; but, in addition to the Japanese and Chinese, the beautiful wares of Dresden, Sèvres, and Chelsea were studied. But these early Worcester makers were no mere plagiarists. Whatever style was adopted was made to bear a Worcester character, and no English works gave evidence of more loving care in their production than some of the vases and services made at Worcester from about 1760 to 1775.

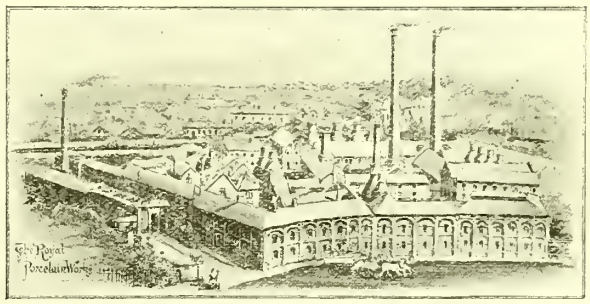
Dr. Wall died in 1776, and the business passed through successive proprietorships till the year 1862, when the

THE CATHEDRAL, WORCESTER.

present joint-stock company was formed. Since then the manufactory has been largely extended, not only by the natural growth of the business, but by the acquisition and amalgamation of other works in Worcester. In 1895, for instance, the Granger works were acquired, and only last year the Hadley works, opened in 1896, were taken over.

The manufactures embrace fine porcelain, ivory porcelain, semi-porcelain, vitreous stoneware, parian, majolica, Worcester faïence, terra-cotta, etc. The various processes have to be seen to be thoroughly appreciated, but it is interesting to note that an ordinary piece of decorated ware will pass through some twenty to thirty hands or processes before it can be sent out in a perfect state. The raw materials consist of china stone, felspar, fireclay, flint, and calcined bones.

After leaving the Porcelain Works a visit was paid to the Cathedral and to the Commandery. The Cathedral, which is beautifully situated on the bank of the Severn, is in the form of a double cruciform. Internally it is very ornate, and



ROYAL PORCELAIN WORKS.

from the nave a fine view is obtained of its length from east to west. The pulpit, which stands in the nave, is a rare work of art, and was the gift of the late Earl Dudley.

The ancient hospital, known as the Commandery, was founded by St. Wulstan, Bishop of Worcester, about the year 1085, for a master, priests, and brethren, under the rule of St. Augustine, who ministered to the sick, relieved the poor, and sheltered the traveller. Its great refectory and guestern hall, with their beautiful roofs of carved oak, massive doors, and stained glass, remain as witnesses to the important position it once occupied among the religious institutions of the city.

Having lunched at the Guildhall, where they were welcomed by the Mayor (Mr. H. A. Leicester), the party at 2.45 took train for

MALVERN.

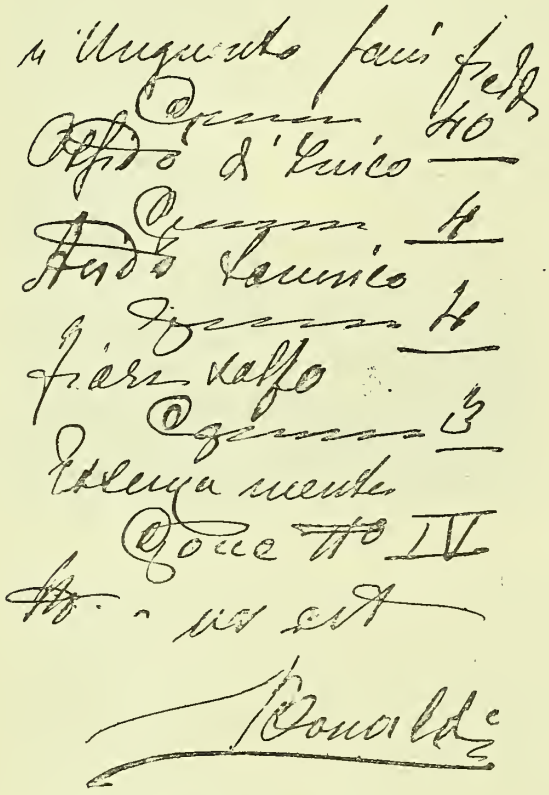
THIS is probably one of the most beautiful spots in England. The town of Malvern is essentially modern; historically the place is one of the most ancient in the country. Geologists tell us that from the granitic formation of the hills they must have been among the earliest portions of England to appear above the surrounding waters, their caps forming a chain of islands to be faced at a much later date by the Cotswolds; and the deep ravines along their sides have been attributed by some to the glacier action at some far distant period of our planet's existence.

Next to the everlasting hills, which dominate the town, the Priory is the most notable object in Malvern. Its history is practically the ecclesiastical history of Malvern. The whole interest of the place centres round this venerable structure, which was founded in the year 1080, in connection with the Benedictine Order of Monks. The windows are famous for the exquisite workmanship, infinite detail, expressive symbolism, fertility of idea, and harmony of design and tint.

Malvern is famous for its climate and for its drives, and in this latter connection that to the British Camp, which the Local Committee selected, is one of the finest in the whole Kingdom. The party passed through some beautiful scenery. On the left is a long stretch of the hills, and in front is the Herefordshire Beacon or British Camp, the ancient fortifications showing more and more clearly as they are approached. From "Malvern in and Near," published at the "Malvern Gazette" office, we gather that, according to tradition, Caractacus himself occupied the camp during his struggle with the Romans prior to his retreat across Herefordshire, and his subsequent capture at Caer Caradoc, in Shropshire, in 52 A.D. Evidences of Roman occupation have been given by the finding of their coins in the vicinity and by the Roman tiles at the Priory Church.

The great hollow in the centre of the camp is egg-shaped, and as the Druids used the egg as a symbol of resurrection, an ecclesiastical character has been given by some to the form adopted. In the great hollow there is room for an army who, screened from observation, could watch the movements and approach of their opponents over a wide distance.

Conundrum Column.



A Foreign Prescription.

We shall be glad if our subscribers will send us postcard translations of the above prescription not later than Wednesday, August 1. We shall award prizes on the conditions which have hitherto obtained for such competitions.

The Botanical Puzzle

illustrated by Mr. Reynolds on page 14 of The Chemist and Druggist, July 7, has proved extremely popular. There have been many amateur versifiers elucidating the mystery, and nearly all were correct in their surmise that "pod-off-a-line" was intended. The following are some of the best verses; few, it will be observed, stick to the "limerick" form.

What a terrible scene to portray:
Let us hope there are none in the way.
A pod on a truck
Is running amuck:
It's a pod-oph-a-lin(e), we might say.
A. G. Blaydes.

That Salisbury affair seems to jar
On the nerves of our artist F.R.,
For the object you see
Well an airship might be:
'Tis a "pod-off-a-line" much too far.
Ernest R. Samways.

We saw an angle whose sine
Got mixed with a telegraph-line;
At the tangent was heard,
On that railway absurd,
The falling of pod-off-a-line. C. E. S.

A steamboat express, when it runs off the line,
Gives the living a tremulous shiver;
But we know that a dose of P. podophyl-line
Is the very best thing for the liver. Geo. Whittle.

Gin a pod-ie jump the roadie,
Need a bodie whine?
Tak' a dosie to compose ye
Of podophylline. C. C.

F. R., this conundrum of thine
Will enable the dullest to shine;
For as soon as I look,
'Tis as plain as a book:
Podophyllin—pod off a line! H. S. Green.

Who sent pod off line?
"I," said the shunter;
"My wits have got blunter;
I sent podophyllin." Miss R. Sproule.

How to win
The tin:
Call it
Podophyllin. Nan Walker.

This ponderous pod off the line,
Striving hard as a planet to shine,
Appears to me
Podophyllin to be,
And if not, then I've missed the design.
W. D. Dodd.

Oh, what a disaster is here!
How fortunate no one is near!
The leap from the line
On so steep an incline
Is podophyllin, it is clear. P. Barritt.

A man to Newcastle-on-Tyne
This leguminous fruit did consign,
But the truck made a swerve
While taking the curve,
And now there's a pod off a line.—W. Hodges.

A legume so long, fat, and fine,
Went tobogganing down a decline;
But a critical curve
Quite upset his nerve,
And now he's a podophyllin. W. Parsons.

I looked into the *C. & D.*,
And said I'll earn a shillin',
For all that I have got to do
Is to write podophyllin. L. J. Sharp.

John Jones was Welsh, from Talyllyn;
Could twist his tongue both out and in.
Give him a consonant or two,
He'd weave them into Welsh for you.
But neither John, nor kith nor kin,
Could Welshify podophyllin. Gloucestrian.

This afternoon, when feeling solemn,
I lazily scanned the conundrum column,
And saw therein an illustration
Which caused a thrill of animation.
An inspiration seized me then,
I (greatly daring) grasped my pen,
And if I am wrong, surely 'tis no sin,
But I should say 'twas podophyllin.
Alice G. Tranter.

When I'm feelin' most onasy,
An' my head is nearly crazy
With the pain
From my liver out of order,
Or some kindred sore disorder
Of its kine,
Sure I'll off to Paddy Flinn
For some pil. podophyllin,
To——Here endeth this explanatory rhyme.
James D. Carse.

Trade Notes.

Danysz 'Phone.—The telephone number of Danysz Virus, Ltd., has recently been changed. They are now connected with 138 Central.

A Picnic.—The employés of the Liverpool Lint Co. are to enjoy their annual picnic on July 28, and the company ask us to notify the closing of their mill on the occasion.

Mr. C. W. Harper, glass and bottle merchant and druggists' sundriesman, 254 Stockport Road, Manchester, is now on the telephone, the number being 236 Rusholme.

Messrs. Oppenheimer, Son & Co., Ltd., London, have put on the market palatinoids of diastase from malted barley, each containing 5 grains, and also cocoids of the same for children.

A Chemists' Side-line.

Some Personal Reminiscences of a Pioneer in the Sticky Fly-paper Trade.

SOME fifteen years ago, on a hot summer's day, I caught the unlovely ring of our old friend 'Catch-'em-all-alive-O." Hastening to the door to view his picturesque person I was struck with the alacrity with which the womenfolk rushed after him to purchase his unsightly article. I was well supplied with the usual arsenical papers, but sold them very sparingly. It set me thinking, and I concluded that if a sticky paper could be made fit to be sold in druggists' shops, a considerable trade could be done. I was right. I knew the nature of the coating on what was sold in the streets, but did not think this was good enough. Birdlime occurred to me; but how was it to be spread? I was familiar enough with spirit-varnishes and that sort of thing, and I saw that I required some volatile solvent. I turned to bisulphide of carbon, and my first experiment delighted me, for the birdlime was dissolved immediately. Paper which would take a coating and still not absorb any of it was my next requirement. I had noticed that the grocers were beginning to use a new kind of paper for butter and such like greasy commodities, and it seemed to me that this would serve. It did. I distributed a few gratuitously among my neighbours, and before the day was over I had the gratification of seeing one completely covered with buzzing, struggling flies. Which was music to my ears.

I now set to work in earnest, for it was an exceptionally warm time, and there was promise of doing some business. Exception was taken at first to the villainous odour which was liberated on the papers being first opened, but as this was not a permanent condition it did not tell against them. After a while I learned that if the papers were not covered with flies on the first day, and they were still exposed, a hardening-process set in and created a surface like glass, and, of course, rendered the paper useless. I knew this was due to oxidation, and corrected it by adding to the mixture some non-drying solid fat like lard or petroleum jelly. This, of course, had to be used in a sparing manner or the viscosity would have been impaired. I found one ounce of lard to half a pound of birdlime a good, reliable proportion. This was also a very necessary precaution to prevent drying before the papers were sold. I could, of course, have liquefied my birdlime and fat by heat, but the solution was so simple to use that I never thought of changing. It could be brushed on to the paper very expeditiously, and might be left in open vessels without thickening in the least.

I arranged a system of forms 12 ft. in length, each holding a dozen papers, and this obviated the necessity of counting, as I had twelve forms, and each round thus represented a gross. A boy, after a day or so, would make a gross in a quarter of an hour, with the help of two boys to carry off and spread on the forms. By the time a gross was made the papers which were first made would be quite ready for folding; so the process went on continuously.

I do not suppose that my new business did my old one any good, for the odour of the bisulphide was distinctly offensive, especially if well diluted with the atmosphere, and frequent expressions of disgust reached my ears. It must not be supposed that I was left at liberty to be a nuisance to my fellow men and women. One fine day, in the height of my activities, I received a very official-looking communication which proved to be an intimation from some Corporation department that if I did not put a stop to my operations within a limited time I should have my head cut off, or something like it.

It was not without novel experiences that I developed this new industry. Among other things I used to watch with curiosity the effect of pouring gallons of bisulphide on a mass of birdlime. By reason of its great specific gravity it would immediately dive down to the bottom of the large tank I used, and the birdlime come floating to the top; agitation for a few minutes would bring about complete solution. The result of being in an atmosphere laden with bisulphide was extraordinary; it was clearly a very powerful brain-stimulant, for after spending a few hours in the room where it was used it was absolutely impossible to sleep. The activity of the brain was astonishing; but it was followed by a period of great depression, and had it not been for the kindly services of the bromides I should have been wrecked. The greatest evil, however, came from the volumes of heavy bisulphide-vapour from which the workers could not altogether escape. It brought on a distressing condition of sickness, and necessitated fresh relays of helpers, for one such experience was enough. It was no use trying to coax boys back again. Of course ventilation was applied as far as possible, but there was necessarily a limit to the extent to which it could be used, for the least puff of wind would lift the drying papers up and distribute them in great confusion.

As I was now using material in considerable quantities, I began to look about me in order to improve the source of supplies. By some happy accident I received a curiously compounded communication from an old man, who stated that he had been engaged making birdlime for over fifty years; that his stuff was all right, and that he would be glad to supply me at what seemed a very reasonable price. I lost no time in obtaining a sample lot, and this was the beginning of transactions which mounted up to tons. The old man was proud of his abilities in this particular direction, but spoke very guardedly about the actual process of manufacture. One day I was delighted to find myself in the tumbledown shanty that served him as a factory. I had known that he bought raw linseed oil abundantly, and I knew that to turn it into my article it required prolonged gentle heat. I saw on his ramshackle fireplace two large iron saucepans which had evidently been used for the last batch. It is not everybody who could stand making birdlime in quantity. It is full of danger from firing spontaneously, and the fumes which come off abundantly are most noxious. It requires considerable experience to tell at what stage to shut off the heat, and the work of stirring towards the last is real hard labour.

I had an amusing experience once. A half-drunken man who pretended he could make birdlime offered to show me the whole business—for a consideration. He required an earthenware jar and some linseed oil, and we rigged up a fire in the open. He had been stirring and stirring for a considerable time, with his nose over the pot, when suddenly the stuff burst into flame, which caught the poor man's face and singed all the hair he had. It sobered him at the same time.

For bisulphide, I was fortunate in being located within a few miles of a works where it was made in enormous quantities, and where I could obtain at the rate of 14*s.* per cwt.—a very different figure from the wholesale druggist's 1*s.* per lb. I tremble now when I think of the huge quantities of this terrible stuff I used to handle. I certainly jeopardised my own and my landlord's state by having it about me. I ventured on one occasion to remove traces from a gallon tin by holding over a gas-flame; fortunately, the neck of the tin was not in my direction, for in a moment it exploded violently, at the same time sending forth a long tongue of blue flame, and quickly filled the apartment with choking sulphurous vapour. I used to obtain the bisulphide in large drums made of boiler-plate, holding half a ton, and if these had been filled during the night, when the temperature was much lower than in the daytime, it would spurt out in an alarming manner on unscrewing the plug.

With regard to paper, which is a foreign-made article and shipped to Hull extensively, I paid at first as much as 7*d.* per lb. through my ordinary paper-dealers; but I soon improved upon this, and latterly obtained in small quantities at 3*d.* per lb. As my paper was always delivered at the printers, it happened sometimes that it was utterly unfit by reason of countless pinholes, and this would lead to delay and loss. For printing my early lots cost 5*s.* per ream, but I got down to a shilling for even a few reams when struck off from stereos.

After finally abandoning carbon bisulphide as a solvent, I turned to turpentine; but the price of this was a serious factor, and it had the disadvantage of slow evaporation, to say nothing of the baneful effects of its vapour on the eyes. Still, for comparatively small operations, it is really very useful. The birdlime and oil or fat should be melted until it froths slightly and sufficient turpentine added to allow of spreading with a short bristled brush. If used while hot there is not so great a waste of the spirit. The papers require three or four hours' exposure, according to

the condition of the atmosphere. It will be understood that if any turpentine is left in the coating it occasions running out at the sides, and this is not a desideratum.

As the demand for fly-papers is so very, very uncertain the retailer should have an elastic source of supply, ensuring his ability to meet demand up to the last, and also to prevent an over-supply. It is no use pretending that these things are any the better for being kept throughout the winter. They are not.

Thus far I have said nothing about the commercial side of my venture, and perhaps a few particulars may prove of interest. Considering that my paper embodied two novelties (the use of a solvent to make spreading practicable, and the use of grease-proof paper), I sought the protection of the Patent Office. It will readily be believed that the agent encouraged this notion, and smilingly (perhaps laughingly) pocketed his fee, as also did the Government Department. In due course I received a precious document, embellished with an enormous red seal, which promised on the face of it to inflict all sorts of pains and penalties on whomsoever should presume to trespass on my preserve. Nothing of the kind did I get out of it. Early in the following season I was approached by the representatives of a firm who had also embarked in the same direction, and who at once expressed their chagrin on discovering that they had been anticipated in London. We both seemed to understand that we had alighted upon virgin soil, and that as together we represented might and right, we should work it for our own advantage. It worked out all right for a few years, first one and then another intruder being frightened from the field, until at last a strong man appeared who was prepared to test the solidity of our position. Our fences were not quite strong enough : he made an opening, and others took courage and did likewise. Very soon our preserve was invaded by a perfect herd who turned all the cream into skim milk.

To revert to my own experience as a manufacturer, I at once cultivated a wholesale trade, and my neighbours equally with myself sold very great numbers of my sticky fly-papers. The following year an advertisement in the *C. & D.* brought me shoals of orders, which were repeated over and over again before the season closed. For the supply of these I found the parcel-post of infinite service and great simplicity, as only one calculation (that of weight) had to be made. I found myself in bad odour with the officials at the post-office, who remarked they would really have to erect a special building for the reception of my parcels. The rate at which orders poured in was really astonishing, and we were always behindhand until at last there was such a deluge that it simply prostrated me; not having the organising faculty for appropriating the service of outsiders. In this dilemma I turned to one of my large wholesale buyers, and they undertook to set up a factory and run the whole thing. I thought my troubles were now over; but no—they could not proceed without my own personal supervision, and I seriously doubted whether life was worth living; so, to make a long story short, I again took over the entire business. A good deal of good business was lost, and I was really grieved when I had to refuse an order from one firm for a thousand gross. It was a ticklish sort of trade to work, and we were perpetually in hot water from one cause or another. Sometimes too heavy a coating had been laid on the papers, and would run out, making the papers utterly unfit for sale; at other times too thin a coating had been given, and someone would write, sarcastically saying he had not ordered skating-rinks—and this on a postcard, too! My advertisements, having spread themselves all over the world, I used to get inquiries from all sorts of strange countries. I was taken in once by a letter from the West Coast of Africa (postage not paid). It was from some joker there who said that he had read of my article, and that if I could guarantee them to catch elephants, which invaded his garden, I could send some.

As long as I showed something like a monopoly I always enjoyed the refusal of orders; but after the invasion to which I have referred my customers would not tolerate my papers nor put up with my style of doing business. It is all over now, and when I see the various contrivances that are being made and sold for the purpose of dealing with the annual plague of flies, it is with combined amusement and amazement that I look back upon my own manufacturing career.

I think I may lay some claim to having a faculty for smelling out virgin soil; but even that wants cultivating, and I never have taken kindly to spade-work, so that it has not contributed to my mundane prosperity. During the first season of my paper-making I came across an article in a daily paper on fruit-farming, and from it I gathered that it was a practice with apple-growers to bind the trunks of the trees in the autumn with bands of paper on which cart-grease had been smeared. It struck me at once that the mixture I was using would make an excellent substitute, as it could be applied easily with a brush, and that it would most effectually prevent the ascent of the winter moth, for which purpose this grease-banding was applied. I advertised in a suitable medium, and put it up in gallon tins, which I offered to deliver free for 10*s*. Free samples were offered, and here, again, it seemed I had "struck oil," for applications came in from all over the country, and a number of orders. This went on from year to year, and as this trade came on just as the fly-paper season was over, it worked very well. I will not pretend that it developed into anything very extraordinary, but this was not owing to the article not being the thing. Even so late as last year one of my original purchasers sent for his usual supply. This is a trade that I think could be picked up by those on the spot, and as the preparation would be used out of doors, petroleum would be a suitable thing with which to thin the birdlime.

The New Spanish Tariff.

FULL particulars regarding the new Spanish Customs tariff are now available in the form of a Government Blue Book [Cd. 3,066, price 5½*d*.], which gives a comparison of the new duties with the old. The new tariff rates quoted in the book are the minimum rates, these being applicable to the United Kingdom, which is entitled to most-favoured-nation treatment. Although the new duties came into force on July 1 (see *C. & D.*, July 7, p. 9), all the rates cannot be taken as absolutely definite, as great pressure is being brought upon the Spanish Government, and it is anticipated certain concessions will be made. The chemical section of the tariff has been revised throughout, and the majority of the items show increased rates. Omitting all reference to articles on which the duties remain unchanged, we note the more important alterations. Among the mineral acids (which have all been advanced), nitric has been singled out to pay 6 pesetas per 100 kilos. (2*s*. 5¼*d*. per cwt.) instead of 2p. 20c. Albumen and gelatin pay 52p. 50c. (1*l*. 1*s*. 4*d*. per cwt.), compared with 12p. Bleaching-powder and calcium chloride have advanced from 2.60p. to 3p. (1*s*. 2¾*d*. per cwt.). Quinine and salts are now scheduled separately, and are rated at 10p. (3*s*. 7½*d*. per lb.), and other alkaloids and salts 15p., or 5*s*. 5½*d*. per lb. Formerly these two items were grouped together at 30p. per kilo. Saccharin, which is prohibited except for medicinal purposes, is rated at 5*s*. 10*d*. per lb. Most of the heavy-chemical group are rated higher, the English equivalents being as follows : Caustic soda and caustic potash, 1*s*. 10*d*. per cwt.; sulphate of soda, chloride and carbonate of magnesia, 3.66*d*. per cwt.; sulphur (unground), 8.78*d*. per cwt.; ground sulphur and flowers, 1*s*. 2¾*d*. per cwt.; alum salts and sulphate of magnesia, 11*d*. per cwt.; other chemical products not specified, 6*s*. 1¼*d*. per cwt. Pills, capsules, etc., 1*s*. 1*d*. per lb.; medicinal wines, 11*d*. per lb.; medicines containing alcohol, not specially tariffed, 1*s*. 1*d*. per lb.; other pharmaceutical products, 8¾*d*. per lb. Beeswax (lump) is increased from 20p. to 30p., or 12*s*. 2½*d*. per cwt.; paraffin wax is reduced—raw from 40p. to 30p. (12*s*. 2½*d*.), and refined from 55p. to 50p. (1*l*. 0*s*. 4*d*. per cwt.). Alcoholic perfumery, formerly dutiable at 2.50p. per kilo., is now 4p., or 1*s*. 5½*d*. per lb. Animal substances employed in medicine are rated at 5p. 60c., or 2*s*. 3¼*d*. per cwt., against 3p. 60c. in the former tariff, but vegetable drugs are reduced from 25p. to 21 p., or 8*s*. 6½*d*. per cwt. Surgical instruments were formerly 2p. per kilo., but are to pay 5p., or 1*s*. 9¾*d*. per lb. All the import duties are to be levied in gold instead of in silver as hitherto, which provision, of course, in itself is equivalent to an increase in the tariff rates.

Trade-marks Applied For.

Objections to the registration of any of the undermentioned applications should be lodged with C. N. Dalton, Esq., C.B., Comptroller-General of Patents, Designs, and Trade-marks, at the Patents Office, 25 Southampton Buildings, Chancery Lane, London, W.C., within one month of the dates mentioned. The objection must be stated on Trade-marks Form No. 7, cost £1, obtainable through any money-order office.

(*From the "Trade-marks Journal," July* 4, 1906.)

"LEMONINE" ("Lemon" disclaimed); for perfumed soap. By J. Hine, 48 North Road, Durham. 280,142.

"IVERNA"; for perfumery. By Davidson & Hardy, 20 Castle Place, Belfast. 280,393.

"VILLA"; for perfumery. By Lever Bros., Ltd., Port Sunlight. 281,635.

"CRASTINE"; for perfumery. By C. Humble, 78 Fleet Street, London, E.C. 282,477.

(*From the "Trade-marks Journal," July* 11, 1906.)

"NIEVE"; for caustic soda. By Bessler Waechter & Co., Ltd., 18 Fenchurch Street, London, E.C. 282,826.

"JETRAL" and "NOIRITE"; for chemicals in Class 1. By J. C. & J. Field, Ltd., 15 Upper Marsh, Lambeth. 282,941, 282,942.

"DURON" ("Dur" disclaimed); for chemicals in Classes 2 and 3, for raw materials and for polishes. By Chemische Werke Hausa Ges. m.b.H., Hemelingen, Bremen. 281,895, 281,896, 281,897, 281,900.

"GROTTO"; for disinfecting-soap. By W. C. Hebden, Winding Road, Halifax. 282,343.

"VICTORY ABSORBENT"; for a veterinary sprain liniment. By J. Johnson, 32 Church Street, Burnley. 282,683.

"MARLOSS"; for a veterinary preparation. By W. P. Pipe, 2 Park Road, Liverpool. 282,954.

"SPRUDEL" (disclaimed) and oblong label devices of a fountain and basin; for bath-salts. By Clensol Chemical Co., 42 Gutter Lane, London, E.C. 278,931.

"ZANOFOS"; for medicinal preparations. By H. Wells, 21 Mirian Road, Plumstead. 281,037.

"ANDREAS SAXLEHNER" (signature); for medicinal salts and for mineral waters. By Andreas Saxlehner, 3 Andrassy Street, Buda Pest. 282,346, 282,347.

"HUNYADI JÁNOS"; for medicinal salts. By Andreas Saxlehner, 3 Andrassy Street, Buda Pest. 282,348.

"RUBBERATOR"; for a rheumatism liniment or ointment. By F. G. Thomas, 139 Cannon Street, London, E.C. 282,476.

"MYXYM"; for detergents. By H. Jackson, 10D Powis Terrace, Bayswater, London, S.W. 283,258.

"FLORECIA" ("Flor" disclaimed) on a shield supported by two lions rampant; for perfumery. By A. Monségur, 25 Rue St. Honoré, Paris. 274,680.

"ALLIANCE"; for perfumery. By Lever Bros., Ltd., Port Sunlight. 281,631.

"NECTAR"; for perfumed soap. By Lever Bros., Ltd., Port Sunlight. 281,634.

"SANITOL"; for perfumery. By H. C. G. Luyties and F. A. Luyties, Vandeventer and Laclede Avenues, St. Louis, Missouri, U.S.A. 281,661.

"ADONIS"; for perfumery, excluding hair-preparations. By M. Schwarzlose, 59 Koenigstrasse, Berlin. 282,321.

"LOXTHERA"; for a hair-preparation. By the Natural Hair Food Co., 39 Fleet Street, London, E.C. 282,411.

"KAITO"; for perfumery. By R. Armstrong, Ltd., 40 Saul Street, Preston. 283,110.

"LYNAVON"; for perfumery. By S. Maitland & Co., 11 Grocers' Hall Court, London, E.C. 283,339.

"LIRIANA"; for perfumery. By Vinolia Co., Ltd., Malden Crescent, London, N.W. 283,367.

(*From the "Trade-marks Journal," July* 18, 1906.)

"AUTAN"; for disinfectants. By Farbenfabriken vorm. Bayer & Co., Elberfeld. 283,650.

"VELWYN"; for a skin-preparation. By D. Pryce-Jones, Furlong Road, Bourne End. 279,256.

"BYLETS" ("Bile" disclaimed); for pills. By P. Grimshaw and H. C. Ivinson, 24 Oakfield Road, Ilford, London, E. 280,823.

"XEVE"; for an eye-lotion. By C. Baker, 10 Old Kent Road, London, S.E. 281,120.

Oblong label device on a green ground with head of a fox and a hunting-crop in one corner; for chemicals in Class 3. By J. Richardson & Co., Leicester, Ltd., 10 Friar Lane, Leicester. 281,980.

"GONOCIDE"; for a medicine. By B. I. Rahim, M.R.C.S., Drug-stores, 253 Commercial Road, London, E. 282,070.

"INFLU-ASTHMA" (in manuscript); for a medicine. By J. L. Moriee and C. Kerr, 13 Canning Place, Liverpool. 282,571.

"LIN-TUS" and label device; for a medicine. By J. Adams, 64 The Green, Aberdeen. 282,891.

"SEXUALINE"; for a medicine. By F. Wilkinson, 2 Ellercroft Road, Bradford. 282,996.

"G. N. BLACK" (signature); for embrocations. By G. N. Black, 120 Stirling Street, Airdrie. 283,041.

"SPOTTINE"; for an ointment. By Osborne, Bauer & Cheeseman, 19 Golden Square, London, W. 283,428.

"ANTOXURIN"; for chemicals in Class 3. By F. Hoffmann La Roche & Cie., Basle. 283,718.

"VENIVICI"; for vibration instruments. By J. E. Garratt, 124 Southwark Street, London, S.E. 283,643.

"CREMOR"; for a paste used in confectionery. By W. J. Bush & Co., Ltd., 28 Ash Grove, Hackney. 281,869.

Device of a fish with large expanded fins and signature "W. SEEGER"; for a hair-dye. By W. Seeger, Albrechtstrasse 14, Steglitz, Berlin. 276,834.

"GOUTTE D'OR"; for perfumery. By the Crown Perfumery Co., Sidney Road, Homerton. 281,607.

"BRISE PRINTANNIÈRE"; for perfumes. By W. J. Bush & Co., Ltd., 28 Ash Grove, Hackney. 281,876.

"MANDARIN" (in English and Chinese), and device thereof; for perfumed soap. By J. Crosfield & Sons, Ltd., Bank Quay, Warrington. 281,897.

"ZIBOTA" (in manuscript); for a toilet and nursery powder. By S. Goldstein, 41 Chicksand Street, London, E. 282,052.

When the Law is Amended.

The artist in the above endeavours to depict the condition which may obtain when qualified chemists are squeezed out by legislation and competition. It is *mistura astringens* the pained customer wants, and the nearest the licensed poison-seller can supply is Cope's or Hignett's.

Manufacturing Formulas and Methods.

By "Wrinkles."

I PROPOSE to give some formulas and useful wrinkles, the result of many years' experience as a food and drink expert, which I hope may not only be of service to readers of The Chemist and Druggist but lead to increased profits. I shall not tread upon scientific ground—that I leave to abler men—but I by no means advise that the scientific side be neglected by anyone who would be a successful manufacturer. A man may in a lucky moment hit upon "a find," but, unless he sets himself to understand the conditions, the time will come when he will find himself at sea and unable to prevent the spoiling of batches of valuable material. On the other hand, one cannot under-estimate the advantages of practical knowledge. In working any process, improvements are bound to suggest themselves to those who have sufficient experience to grasp the economic importance of a change in the process of manufacture. In other words, a successful man is generally one who has profited both from his successes and his failures.

Brewed Ginger-beer.

This is a beverage rarely well made, yet when it is well made it commands a large trade at very remunerative rates. The beer must, however, be a first production. I remember my old singing-master saying that "God Save the Queen" is but rarely properly sung because everyone thinks he knows it and no trouble is taken to learn the anthem. This applies to the making of the homely old-fashioned ginger-beer. The phenomenon of fermentation is one which the manufacturer should take steps to understand, as from the lack of a rudimentary knowledge of fermentation ginger-beer is often sold containing an excess of alcohol. One pound of sugar in one gallon of water can be fermented so as to produce a liquid containing more than 10 per cent. of proof spirit. If such a beverage is sold, trouble ensues with the Excise authorities. As is well known, the authorities have power to prosecute if an unlicensed person sells ginger-beer containing more than 2 per cent. of proof spirit, but action is not taken unless 3 per cent. or more is present. Of the two recipes given, the first can with care, and if the product is sold within a reasonable time, be kept well within the Excise limits; while in the second, as some of the sugar is replaced by saccharin, no fear of overstepping the mark need be entertained. Cane-sugar and yeast of the best quality should be used, but it will be necessary to check the fermentation in No. 1 recipe by adding a preservative. I think, however, it is better to use the second recipe, as no risk is run of obtaining a highly alcoholic product.

General Hints for Brewing Non-alcoholic Beers.

1. The manufacturing-plant should be of oak, as other woods are liable to upset the beers.

2. Three casks with heads out are required. One of these should have a capacity of 12½ gals., the other two holding 100 gals. each. The small cask should have a tap about 1½ in. from the bottom; in the case of the larger casks the distance should be 2 in.

3. Good water is absolutely necessary, as a suitable water not only promotes a proper growth of yeast, but assists in producing a superior beverage. It pays to consult an expert in case the water-supply does not give good results.

4. The sugar used should be uncoloured cane-sugar.

5. Use a good brand of compressed yeast, as a brisk fermentation in non-alcoholic drinks is advisable, and brewers' yeast cannot always be depended on.

6. Before fermenting beers, put the yeast into an enamelled pan with a small quantity of the wort and well whisk them together. A better plan is to pour the liquid from one vessel to another, preferably from a height, as the aëration thus obtained is an advantage.

7. Yeast should be added at a temperature of between 60° and 80° F. The lower the temperature, the slower the fermentation. Each maker must choose what seems to him to be the best temperature. Generally, 70° F. will be found most suitable.

8. Before adding the yeast see that the wort is well stirred up so as to make the temperature even throughout the liquid.

9. It is important to keep the beer well covered up, to prevent infection by spores of objectionable ferments which are always floating about in the air.

10. Bottle the beverage in a cool place, but after bottling store in a moderately warm place, the bottles being placed upright.

11. It is an excellent plan to enter in a book full particulars of each brew, and also to reserve a few bottles and watch results. Much information for future guidance can be obtained in this way, especially if a note is made of the physical characters, such as specific gravity.

The Recipes.

No. 1.

Ginger, unbleached and crushed	7 lb.
Cream of tartar	1 lb.
Tartaric acid	1 lb.
Sugar	106 lb.
Water	94 gals.
Dried yeast	a sufficiency
Preservative	

Put the crushed ginger into a loose canvas bag and place the bag in the 12½-gal. cask. Then pour over the ginger 10 gals. of boiling water, and stir up for half an hour to get as much flavour as possible out of the ginger. After an hour run off the water, through a V-shaped filter-bag tied to the tap, into one of the 100-gal. casks, into which the sugar has previously been placed. Next pour four separate 10 gals. of boiling water on the ginger, straining into the fermenting-cask as above—each infusion to occupy an hour. Care must be taken each time to well rouse the ginger as directed in the first infusion. When all the liquids have been run out, stir till the sugar is dissolved. Separately dissolve in hot water the cream of tartar and tartaric acid in an enamelled-iron or wooden vessel, and add the solution to the ginger infusion. Then make up the bulk to 100 gals. with hot and cold water, so that a suitable fermenting temperature is obtained.

For best beers I recommend citric acid instead of tartaric acid, and Jamaica ginger in preference to cheaper varieties. At some seasons the addition of a little flour, worked into a smooth paste with a little of the ginger infusion, is necessary to hasten fermentation. This applies to cold weather, and is not necessary when the weather is hot. Before and after the yeast is added well stir the beer. When fermentation is completed, draw off, through a V-shaped filter on the tap, into the third cask, from which the beer is bottled.

No. 2. (With Saccharin.)

Ginger, crushed	7 lb.
Tartaric acid	12 oz.
Cream of tartar	8 oz.
"Refined" saccharin	1 oz. 2½ dr.
Sugar	44 lb.

Macerate the ginger as in No. 1 recipe. Dissolve the saccharin in 2½ gals. of boiling water and add to the sugar in the fermenting-cask, making the liquor up to 100 gals. as directed above.

On account of the smaller quantity of sugar in this recipe less preservative is needed, as saccharin is a preservative. Salicylic acid is the most serviceable for preserving beverages, but in no case must the quantity used exceed 1 grain per pint.

The great fire which broke out in the centre of Dundee's whisky-warehouses on July 19 was a grand spectacle. Fully a million gallons of spirits of all kinds, including chemists' S.V.R., were consumed in eight hours, involving a total loss of 400,000*l*. The buildings were modern stone structures of four, six, and seven storeys, with concrete floors and fireproof partitions. They were crammed from cellar to roof with liquors in bottles and casks, and, in addition, there were large blending-vats, one of 7,000 gals. capacity. Explosion followed explosion like a military bombardment, and the roar of the fire was awful. Flames rushed through windows and roofs to a great height, and spirits poured down the walls from the various floors in a magnificent cascade of many colours and formed burning rivers in the streets. Altogether it was a scene without a parallel.

Practical Notes and Formulæ.

Cheap Perfumes.

It is notorious that within recent years a considerable market has been found in the East and elsewhere for perfumes made in Germany and supplied at low prices. Various suggestions have been advanced to account for the low prices, but the only reasonable one is that the prices are usually commensurate with the quality. This view is supported by a German contemporary, who all unconsciously says :

> In modern perfumery French floral extracts are no longer employed. The perfumes are made from artificial scents, chiefly of German origin. In making these it is desirable, in the first place, to have a clean, absolutely fusel-free spirit; that of 96 per cent. strength is generally used, and is diluted to 80 per cent. by the addition of distilled water. To destroy any predominating odour of fusel oil or other contaminant of the spirit 3 grams of a 5-per-cent. potassium-permanganate solution is added to 10 litres of alcohol (say, 1 drachm to 3 gals.) and allowed to stand for three to four days, when the alcohol is decanted from the brown precipitate. Spiritus odoratus should not be used. It is generally scented with iris. This odour is too strong for perfume.

Four formulæ are then given which we print in English equivalents :

Heliotrope.		*Lilac.*	
Heliotropin	3ij.	Terpineol	3ss.
Vanillin	gr. vj.	Vanillin	gr. x.
Cumarin	gr. iv.	Oil of jasmine ...	3ss.
Essence of musk ...	ɱxl.	Geraniol	ɱviij.
Oil of ylang-ylang ...	ɱxv.	Palmarosa oil ...	ɱviij.
Geraniol	ɱviij.	Oil of bergamot ...	ɱxv.
Benzaldehyde ...	ɱij.		

May Flowers.		*Mignonette.*	
Oil of linalol ...	3ij.	Geraniol	3ss.
Orange-flower oil ...	ɱx.	Orange-flower oil ...	3ss.
Oil of jasmine ...	ɱxx.	Oil of jasmine ...	3ss.
Essence of raspberry	3ss.	Tolu balsam ...	3ss.
Essence of musk ...	3j.	Oil of orange ...	ɱx.

These mixtures, proceeds our contemporary, are added to 2 pints of 80-per-cent. spirit. The perfume is then poured into brown bottles, which are kept for a few days in winter in a warm place, and then for a few days in a cool cellar. The oftener it is warmed and cooled, the better is the perfume. The addition of 5 drops of ammonia solution to 2 pints of perfume, to artificially hasten the maturing, is recommended.

Insecticides.

The annual report of the Senior Analyst for the Cape Colony for 1905 contains the analytical results of the examination of various insecticides used in the Colony. "Swift's arsenate of lead," in the form of a paste, was found to contain 11.9 per cent. of arsenic (calculated as As_2O_3). On shaking the paste with water for four hours, allowing it to settle overnight, and shaking again next morning, it was found that practically no arsenic had passed into solution. The lead-arsenate paste placed on the market by Fletcher's Albany Tick and Scab Dip Syndicate showed 17.6 per cent. of arsenic (calculated as As_2O_3) and 0.44 per cent. of residue insoluble in nitric acid. The powder prepared by the Acme Chemical Co. contained (according to the analysis) 15.4 per cent. of arsenic and 1.22 per cent. of insoluble residue. Of these two the paste proved to be in a much more finely divided condition than the powder, but less homogeneous when mixed with water than Swift's paste, one portion settling rapidly, leaving in suspension a finely divided white powder which takes far longer to settle than Swift's. A sample of "Paris green" showed a total of 58.1 per cent. of arsenic (calculated as As_2O_3), of which only 0.55 per cent. dissolved after four hours' shaking with distilled water. A sample of acetate of lead, intended for the preparation of arsenate of lead for spraying, was found to contain 60.05 per cent. of oxide of lead, and a sample of arsenate of soda, intended to be used in conjunction therewith, contained 54.6 per cent. of arsenic (calculated as As_2O_3), and common salt as an impurity to the extent of 26.27 per cent.

Medical Gleanings.

Ichthyol-collodion in Erysipelas.

An American doctor ("Alkaloidal Clinic") records several cases of erysipelas cured with ichthyol-collodion. The preparation is painted over the diseased area, beginning well out on the healthy tissue; it is applied frequently, one coat on top of another (without washing), until the layers begin to peel, when it may be removed with warm water and soap. The tissues underneath will be found in a healthy condition.

Eucalyptus Oil in Ankylostomiasis.

Dr. L. P. Phillips, of Cairo, reports in the "Lancet" (1906, 285) his experience of this treatment, which was first suggested by Dr. Hermann, of Mons, Belgium. The treatment, in his opinion, has been followed, when properly carried out, by very good results. There are occasional failures, but Dr. Phillips is certain that it is more successful than thymol is in such doses as can be given in safety. Dr. Hermann's formula was as follows :

Eucalyptus oil	2 grams
Chloroform	3 grams
Castor oil	40 grams

This formula Dr. Phillips used at first, and then, finding that no ill effects were produced in many cases, he increased the doses as follows :

Eucalyptus oil	2.50 grams
Chloroform	3.50 grams
Castor oil	40 grams

Removal of Tattoo-marks.

According to the "British Medical Journal," a French prison surgeon recommends the following procedure, which he employed with success :

> First, apply a concentrated solution of tannin, then needle the parts tattooed. The needling can be done with the closely set needles employed by tattooers. In any case the needling must be close set. In this way some of the tannin finds its way into the tissues. Solid silver nitrate (ordinary point in holder) is then rubbed in firmly. The concentrated solution of silver nitrate is allowed to act on the epidermis and derma for a few moments until the needled points stand out as black dots. The caustic solution is then removed by wiping. The tattooed parts become blackened by formation of silver tannate formed in the superficial parts of the cutis. The applications can be made very quickly, and are not very painful. As a result of the cauterisation an eschar forms, which comes away in about two weeks, and leaves a very superficial scar, which becomes scarcely visible.

The method might be tried on a small area first, as results apparently sometimes depend on tattoo pigments originally employed. Glycerole of papoid used in much the same manner—that is, needled in after making surface of skin aseptic; layers of gauze soaked in the papoid, and fixed with adhesive plaster. A superficial eschar forms. This method has failed as well as succeeded, according to writers.

Liver-abscess.

Dr. Leonard Rogers introduced some time ago a method of treating tropical abscesses of the liver by aspiration and quinine injection. Recently some modifications have been made in the quinine solutions, which it is useful for pharmacists to know. Dr. Rogers's remarks in the "British Medical Journal" are as follows :

> In my former paper I mentioned that I had found both the neutral bisulphate of quinine and also the ordinary sulphate (1 gr. dissolved in 1 minim of dilute mineral acid) efficient in killing the amœba, and I suggested the use of the latter for injection into liver-abscesses, with the idea that it would be less readily absorbed than the soluble salt. . . . On further consideration I have come to the conclusion that the ordinary sulphate of quinine would be liable to be precipitated and rendered inert in the alkaline serous fluid in the abscess cavity, and in two cases [particulars of which are given in the paper] the soluble bi-hydrochlorate of quinine was injected with such perfect success that I now recommend its exclusive use for this purpose. With regard to the strength and quantity to be injected, I usually have two solutions made up and sterilised before the operation, each containing 30 grains of the bi-hydrochlorate of quinine; but in one this amount is dissolved in 2 oz. of water and in the other in 4 oz., the former being used if the abscess contains less than 10 oz. of pus, and the latter if it is larger. In this way the dose of quinine is limited to 30 grains, but in the case of larger abscesses it is dissolved in more water, so as to bring the drug into contact with all parts of the cavity.

Trade Report.

NOTICE TO BUYERS.—The prices given in this section are those obtained by importers or manufacturers for bulk quantities or original packages. To these prices various charges have to be added, whereby values are in many instances greatly augmented before wholesale dealers stock the goods. Qualities of drugs and oils vary greatly, and higher prices are commanded by selected qualities even in bulk quantities. It would be unreasonable for retail buyers to expect to get small quantities at anything like the prices here quoted.

42 Cannon Street, London, E.C., July 25.

CONDITIONS in the drug and chemical markets have undergone little change in the interval since our last report, alterations in prices being few and small. Among the fine chemicals, morphine salts have advanced 3*d.*, and an advance in codeine is talked of. Quinine is stagnant so far as speculation is concerned. A further advance has taken place in citric acid, owing to continued spot scarcity and the enhanced price of citrate of lime. Refined camphor is firm, and bromides are dull. Heavy chemical movements include firmer prices for oxalic acid and sulphate of ammonia. Among oils, peppermint maintains its strength, but American is quiet. Star-aniseed is again firmer on the spot, and in fixed oils cod-liver has a downward tendency. Ceylon coconut, Lagos palm, and rape are dearer, but turpentine is cheaper. Further market news will be found in our Coloured Supplement. The chief alterations up to Wednesday evening are as follows:

Higher	Firmer	Easier
Citric acid	Ammonia sulphate	Cod-liver oil
Coconut oil	Colocynth pulp	Pimento
Menthol (c.i.f.)	Fenugreek-seed	Turpentine
Morphine salts	Gamboge	
Rape oil	Oxalic acid	
Vanilla	Palm oil	
	Star-aniseed oil	

Heavy Chemicals.

The generally good demand experienced for some time past in the heavy-chemical market continues on both home and export account, and at all the principal centres a very fair business is being transacted. There are already some inquiries in the market for next year's delivery, but not much of importance has so far been done. Values are well maintained on the steady side.

Sulphate of Ammonia has taken a firmer tone, and there are more inquiries for forward delivery. Present nearest figures: Beckton, 12*l.*; Beckton terms, 11*l.* 12*s.* 6*d.*; London, 11*l.* 12*s.* 6*d.*; Leith, 11*l.* 16*s.* 3*d.*; and Hull, 11*l.* 12*s.* 6*d.*

Bichromates of Potash and Soda continue to maintain a firm tone at the recent advance, and, in fact, some makers are asking somewhat higher figures. Demand is good, and there is little available for prompt delivery outside existing orders.

Alumina-products.—There is no change of importance in this branch to be reported. General demand keeps up well and is a good average, and values are maintained. Crystal alum, lump, 4*l.* 17*s.* 6*d.* to 5*l.* 2*s.* 6*d.* per ton; lump in tierces, 5*l.* 2*s.* 6*d.* to 5*l.* 7*s.* 6*d.*; and ground in bags, 5*l.* 7*s.* 6*d.* to 5*l.* 12*s.* 6*d.* per ton. Sulphate of alumina, purest qualities and practically free of iron, 4*l.* to 4*l.* 10*s.* per ton for ordinary strength in large casks with extras for higher strengths and allowances for bags and loose slabs. Aluminous cake, 50*s.* to 55*s.* per ton; and alumino-ferric 50*s.* to 60*s.* per ton, according to condition, package, and delivery. Hydrate of alumina, high strength (Al_2O_3,) and purest quality, 12*l.* to 12*l.* 10*s.* per ton in large casks. Special pulp hydrate of alumina, 15*s.* to 17*s.* 6*d.* per cwt. Pulp hydrate in lump and dried, 37*s.* 6*d.* to 38*s.* per cwt; ground, 38*s.* to 38*s.* 6*d.* per cwt. Aluminate of soda, high strength (Al_2O_3), finest quality, 35*s.* to 37*s.* 6*d.* per cwt.; second quality, 12*s.* to 13*s.* per cwt. Carbonate of alumina, 35*s.* to 37*s.* 6*d.* per cwt.

Acid, Citric.—With a continued good demand and scarcity of second-hand lots on the spot, the market has again advanced, foreign makes now being quoted 1*s.* 7*d.* per lb., and English at from 1*s.* 7½*d.* to 1*s.* 8*d.* Citrate of lime is quoted 27*l.* to 29*l.*, which is equivalent to 2*s.* per lb. for citric acid.

Acid, Tartaric, is firm at 10¾*d.* per lb. for foreign and 11¼*d.* for English. The combined makers on the Continent are said to be extremely busy, working practically day and night in order to cope with the demand. It is evident the world's consumption of tartaric acid has increased of late, while the production has not followed in like proportion.

Aloes.—Two parcels, amounting to 52 packages, Zanzibar aloes have arrived, partly in skins and partly out of skins. The *Kildonan Castle*, from Mossel Bay, has arrived with 37 cases of Cape.

Aniseed is slow of sale at from 25*s.* to 25*s.* 6*d.* per cwt. for Russian on the spot.

Antimony is firm at from 105*l.* to 110*l.* per ton for regulus on the spot and 100*l.* to 105*l.* for forward shipment.

Balsam Copaiba.—The exports from Maracaibo during 1905 amounted to 35,667 kilos. (4,251*l.*), against 20,197 kilos. (2,672*l.*) in 1904.

Benzoin.—Within the past fortnight some 200 cases of Sumatra, mostly of ordinary qualities, have arrived, which fact accounted for the easier feeling last week. Gum, at between 7*l.* and 7*l.* 10*s.* and 8*l.* and 8*l.* 10*s.*, is scarce and wanted, but the stocks are now mostly of the cheaper grades. There is a good inquiry for Palembang, but the market is bare, except of low barky block. Sales of parcels ex auction have been made, including 47*s.* 6*d.* for fair glassy.

Burdock.—The stock of old crop is now apparently exhausted.

Camphor.—Refined Japanese in tablets remains firm at 4*s.* 2*d.* per lb. for ½ oz. and 1 oz., up to 4*s.* 3*d.* being asked for smaller sizes, and in crude Amoy a small business is reported at 330*s.* per cwt. spot.

Canary-seed is quiet, but values are unchanged. Fair Turkish and clean River Plate are quoted 45*s.* per quarter on the spot. Fine qualities of Morocco are offering at 60*s.*, and to arrive at 52*s.*, c.i.f. terms.

Capsicums.—Fine Nyasaland cherries sold at 28*s.* to 30*s.* for 34 bags, and stalky East Indian were bought in at 42*s.*

Caraway-seed is steady at 26*s.* per cwt. for fair Dutch.

Cascara Sagrada.—Some small sales of 1904 bark are reported at 32*s.* 6*d.* spot with further sellers; for shipment business was done last week at 32*s.* 6*d.* c.i.f., but 34*s.* 6*d.* is now asked.

Cinchona.—At auction on Tuesday the small supply of 812 packages was offered, of which less than half sold at steady prices compared with the previous sale, the average unit being unchanged at ¾*d.* to 1 3/16*d.* per lb., or about the parity of the last Amsterdam auction.

The following table shows the amount of bark offered and sold:

	Packages Offered		Packages Sold
East Indian cinchona	371	of which	231
Ceylon cinchona...	238	,,	73
Java cinchona	203	,,	—
	812		304

The following table shows the approximate quantity of bark purchased by the principal buyers:

	Lbs.
Messrs. Howards & Sons, Ltd.	47,169
The Imperial factory	30,080
The Mannheim factory	6,258
Druggists	18,607
Total quantity sold	102,114
Bought in or withdrawn	85,872
Total quantity offered	187,986

The prices paid were as follows: East Indian: Officinalis, original stem chips, 2⅝*d.* to 3½*d.*, renewed ditto 2⅝*d.* to 3¾*d.*, ordinary to fair branch ⅞*d.* to 2*d.*, and root 3¼*d.* to 4⅛*d.* Succirubra original stem chips and shavings 2⅛*d.* to 2½*d.*, and renewed ditto 3⅛*d.* to 3½*d.* per lb. Ceylon: Ledgeriana stem chips 2¾*d.* to 3*d.* Succirubra original stem chips 2*d.*, and officinalis good original stem chips 5¼*d.* Java was all bought in.

Cloves.—At auction fair Zanzibar were bought in at 7¼*d.* and good Amboyna at 10*d.* For delivery a fair busi-

ness has been done at dearer rates, including June-August, $6\frac{15}{16}d.$ to $7\frac{1}{16}d.$ to $7d.$; August-October, $6\frac{5}{8}d.$ to $6\frac{13}{16}d.$ (closing sellers $7d.$); October-December, $6\frac{1}{2}d.$ to $6\frac{5}{8}d.$ per lb.

COCOA-BUTTER.—The auction to be held at Amsterdam on August 7 will consist of 40 tons van Houten's, 7 tons de Jong, and 10 tons Mignon brand.

CODEINE.—An advance in sympathy with morphine has been talked of, but no change has yet been made.

COLOCYNTH.—Rather firmer prices have been paid for pulp, the values of which are from 1*s.* 8*d.* to 2*s.* per lb.

CORIANDER-SEED is firm at 15*s.* per cwt. for Morocco new crop, which is now beginning to arrive. A very fair business has been done in Russian at firmer prices, and for shipment 26*s.* c.i.f. is quoted.

CREAM OF TARTAR.—Demand continues dull, and prices remain easy at 78*s.* for 99 per cent. to 100 per cent. powder, 76*s.* 6*d.* to 77*s.* for 98 per cent., and 75*s.* for 95 per cent.

CUMIN-SEED.—Small sales are taking place at 30*s.* per cwt. for ordinary Morocco. For Malta 35*s.*, c.i.f. terms, is asked.

DRAGON'S-BLOOD.—Small sales of dull bag-shaped lump have been made since the auctions at 6*l.* 5*s.* per cwt., and for rather brighter 6*l.* 10*s.* has been paid. Sales ex auction have also been made at 8*l.* 10*s.* to 8*l.* 15*s.* for bright seedy lump, while 10*l.* in still asked for fine bright re-boiled.

FENUGREEK-SEED is dearer at 12*s.* 6*d.* per cwt. for Morocco.

GALLS.—Persian blue remain firm at the recent advance, 87*s.* 6*d.* per cwt., spot, being quoted.

GAMBOGE is firmer, as some quantity has lately been cleared off the market. Sales of unsorted mixed pipe have been made at 15*l.* 10*s.*, and for good Siam pipe is wanted 18*l.*, and rough ricey Saigon 13*l.* per cwt.

GINGER.—At auction a few sales of Jamaica were made at steady rates, including dullish washed at 62*s.* to 65*s.*, and common to good common at 57*s.* 6*d.* to 60*s.*; 280 bags rough wormy Cochin sold at 25*s.* to 25*s.* 6*d.*, and cuttings at 24*s.* Plump limed Japanese was bought in at 25*s.* per cwt.

GUAIACUM.—The exports from Hayti from October 1, 1904, to September 30, 1905, amounted to 15,758 lb., chiefly from Port au Prince.

HONEY.—New Italian white is offered at 34*s.* to 36*s.* c.i.f.

IPECACUANHA.—The *Magdalena* from Monte Video has arrived with 20 bales of Matto Grosso, and 25 bales of cultivated Johore are also close at hand. Prices are unchanged at 7*s.* 6*d.* per lb. for good Rio. So far this month 60 bales have left the Crutched Friars warehouse.

JALAP.—Prices have advanced in New York owing to the rejection of further quantities of low-grades by the Custom authorities.

LINSEED is steady at 46*s.* to 49*s.* per quarter for bright clean descriptions.

MORPHINE.—In view of the advance in opium the makers of morphine salts have, as was anticipated last week, advanced their prices by 3*d.* per oz. The revised quotations are now as follows :

—	—	100 oz. Contracts over 3 months.	250-oz. Contracts over 6 months.
	s. d.	*s. d.*	*s. d.*
Morphine acetate	4 9	4 8	4 7
Morphine hydrochlor. cryst.	4 11	4 10	4 9
Morphine hydrochlor. pulv....	4 9	4 8	4 7
Morphine meconate	5 11	5 10	5 9
Morphine pure cryst.... ...	6 1	6 0	5 11
Morphine pure precip. ...	5 11	5 10	5 9
Morphine sulphate cryst. ...	4 11	4 10	4 9
Morphine sulphate pulv. ...	4 9	4 8	4 7
Morphine tartrate	5 11	5 10	5 9

The above prices are per oz. net cash, no falling clause being allowed on contracts.

MACE, steady in auction, palish West Indian selling at 1*s.* 5*d.* to 1*s.* 6*d.*, and fair mixed 1*s.* 4*d.* to 1*s.* 5*d.* per lb. Fair bold Penang in cases was bought in at 1*s.* 9*d.*

MENTHOL.—In response to a number of offers of 8*s.* 6*d.* per lb., e.i.f., for shipment from Japan, replies have been received quoting Kobayashi at 8*s.* $10\frac{1}{2}d.$ for August-September steamer, and 9*s.* for Suzaki, but there are no buyers at those prices.

OIL, ANISEED STAR.—Further spot sales have been made at 5*s.* 5*d.* to 5*s.* 6*d.* per lb.

OIL, CITRONELLA, is extremely dull at 1*s.* 8*d.* for drums and 1*s.* 9*d.* for cases on the spot.

OIL, COD-LIVER.—Our Bergen correspondent writes on July 21 that the market is exceedingly dull, as is only natural at this time of year, and business is reduced to a minimum. Finest non-congealing cod-liver oil cannot now be quoted above 65*s.* per barrel, f.o.b. Bergen. No statistics of export are available this week.

OIL, PEPPERMINT.—Steady, with fair sales of Japanese (Kobayashi) dementholised at 5*s.* $1\frac{1}{2}d.$ per lb. spot. American oils are quiet and unchanged, with sellers of H.G.H. at 15*s.* 6*d.* and good brands of Wayne County at 12*s.* 6*d.* spot.

OILS, FIXED.—*Linseed* has advanced to 20*s.* per cwt., spot, for London pipes, and 20*s.* 3*d.*, spot, in barrels. *Palm* oil is 6*d.* per cwt. dearer at 29*s.* 6*d.* for Lagos, on the spot. Ceylon *Coconut* has advanced a further 1*s.* 6*d.* to 33*s.*, spot, but Cochin is unchanged at 37*s.*, spot. *Cottonseed* is firm at 20*s.* 9*d.* for crude on the spot, and refined at from 21*s.* 6*d.* to 23*s.*, according to make and package. *Rape* is dearer at 28*s.* 3*d.* for British refined in casks, and 1*s.* less for ordinary in barrels. Ravison has also advanced to 24*s.* 6*d.*, spot. *Turpentine* is quiet and easier at 43*s.* $4\frac{1}{2}d.$ per cwt. for American on the spot, and *Petroleum* is slow of sale at $6\frac{5}{8}d.$ to $6\frac{1}{4}d.$ per gal. for American, $7\frac{5}{8}d.$ to $7\frac{3}{4}d.$ for Water White, and $5\frac{5}{8}d.$ to $5\frac{3}{4}d.$ for Russian.

OPIUM.—Our Smyrna correspondent writes as follows :

SMYRNA, July 14.—The opium-market has again been active, the sales for the week amounting to 173 cases, comprising seven cases old current t.q. at the equivalent of 6*s.* 11*d.*, 22 cases old Karahissar t.q. at 7*s.* 1*d.*, 75 cases old t.q. choice Karahissar at 7*s.* 2*d.*, 59 cases new Adette at from 6*s.* 11*d.* to 7*s.* 2*d.*, and ten cases new Karahissar at 7*s.* 6*d.* per lb., c.i.f. European ports. Twenty-two cases of the above were on speculative account. The market closes firm with buyers, and is in higher tendency. The arrivals in Smyrna amount to 540 cases, against 159 cases at the same time of last year.

PEPPER.—At auction fair Singapore (41 bags) sold at $5\frac{1}{4}d.$ for fair, and to arrive there are sellers of Singapore at $5\frac{5}{16}d.$ for August-October. Fair Singapore *white* sold in auction at $6\frac{7}{8}d.$, a few fine Muntok at $7\frac{3}{4}d.$, and 20 bags good Ceylon at $7d.$ to $7\frac{1}{4}d.$ Privately Singapore is quoted $7d.$ spot, and July-September shipment $5\frac{5}{16}d.$ per lb.

QUICKSILVER remains steady at 7*l.* 1*s.* 6*d.* per bottle from second-hands, importers still quoting 7*l.* 5*s.*

QUININE continues stagnant, the nominal values of B. and S. and/or Brunswick make of sulphate in second-hands being $7\frac{3}{4}d.$ per oz.

At the auction held by the Amsterdam Quinine-works on July 19, $2{,}164\frac{1}{4}$ kilos. Ed. II. sulphate was offered and sold at fl. 11.80 to fl. 11.55 (the average price being fl. 11.71), against fl. 11.85 paid at the previous auction. Of 400 kilos. Ed. IV. offered, 50 kilos. sold at fl. 13.50, the balance being unsold, and the 100 kilos. quinine hydrochloride was also bought in. The next auction will be held on August 9, when $1{,}417\frac{1}{2}$ kilos. sulphate (Ed. II.) and 400 kilos. (Ed. IV.) will be offered.

SARSAPARILLA.—Five bales of native Jamaica have arrived, but no grey.

SENEGA.—Spot is firm at 2*s.* 5*d.* net, and orders cabled out below this figure have not been accepted.

SENNA.—The new crop of Tinnevelly appears to be later this year, which makes it difficult to supply the demand for cheap sennas.

SHELLAC is firm but quiet, with small sales of fair to good free T.N. orange at from 213*s.* to 215*s.* per cwt. Good and fine marks are quoted at from 225*s.* to 238*s.*, according to quality. A.C. Garnet is offered at 205*s.* for good. Futures have been neglected.

VANILLA.—At auction good qualities sold at an advance of 1*s.* to 2*s.* per lb.; while spiits and pickings were firm, common qualities being neglected.

Japanese Customs Tariff.

The Board of Trade are in receipt of a notice issued by the Japanese Customs authorities to the effect that, on and after October 1, the regulations relating to the produetion of certificates of origin will be rigidly enforced. Exporters are warned that all goods which are not accompanied by the necessary certificates at the time of their clearance through the Custom-house at the port of entry will be liable to the duties of the statutory or maximum tariff, and not to the "conventional" or minimum rates. No certificate of origin which is not in order will be accepted, and no extra time will for any reason be granted for the presentation of such certificates.

The Bulgarian Rose-market.

Our correspondent in Bulgaria, under date of July 19, writes that the rose crop this year, as reported previously, is a very good one. Thanks to the unusually cool and favourable weather during the harvesting season the distillation lasted practically a month. During the whole period of the distillation there were only three very dry and excessively hot days—June 1, 2, and 3. These three hot days reduced the crop by at least 15,000 oz. Still the yield is fully up to last year's, and the new otto is extremely rich in aroma and sweet in bouquet. The price of the new crop was settled only a few days ago on the basis of last year's otto. It ranges from 15*s.* 6*d.* to 17*s.* 6*d.* per oz., according to the grade of the quality and the locality of the otto. This price is rather low considering the present actual cost of manufacture, and very probably later on the price of finest grades may advance 6*d.* to 1*s.* per oz. This, of course, will chiefly depend on the demand from abroad, which up to the present has been rather limited, and the market up to now has been dull. There is a great deal of old otto on hand, and exporters are anxious to dispose of it before they offer their new otto.

The American Bromine-industry.

According to the annual report of the U.S. Geological Survey, the production of bromine in the United States last year resulted in a 50-per-cent. increase, the total amount produced being 1,192,758 lb., compared with 897,100 lb. in 1904. Most of it was made in Michigan State. The report states that prices fell greatly last year. No bromine was sold for more than 16c. per lb., except on some old contracts. Large lots were sold as low as 14c., but the average price was about 15c. The total output during the past twenty-five years has been about 11,250,000 lb., valued at about $2,700,000. The following table shows the production in the U.S.A. during the past decade:

	lb.	$
1905	1,192,758	178,914
1904	897,100	269,130
1903	598,500	167,580
1902	513,893	128,472
1901	552,043	154,572
1900	521,444	140,790
1899	433,004	108 251
1898	486,979	126,614
1897	487,149	129.094
1896	546,580	144,501

Madras Government Cinchona.

The annual report of the Madras Government Cinchona Department for 1905-6 states that the quantity of bark harvested was considerably in excess of the normal yield, but this was owing chiefly to the clearance of plots for replanting. The outturn of quinine from 563,000 lb. of bark worked up in the factory was 16,528 lb., compared with a yield of 12,920 lb. of quinine from 504,000 lb. of bark in the previous year. The bark purchased from private growers yielded 3.2 per cent. of quinine, compared with 2.5 per cent. in 1904-05, while the estate bark yielded much the same as in the preceding year. Owing to the fall in the price of purchased bark, the total cost per lb. of manufactured quinine fell from Rs. 11-3-10.52 to Rs. 10-1-5.11. This price was about Rs. 2 per lb. lower than the average price of imported British quinine, so the management takes credit of having been able to effect a substantial economy on the cost which would have been incurred had quinine been purchased in the open market. The quantity of quinine issued during the year exceeded the issues of the previous year by 3.5 per cent. The issues of febrifuge decreased, owing to smaller sales to the Bombay medical stores. The stocks of this alkaloid are large, and the director draws attention to the fact that the quantity disposed of annually is small. Though the price at which quinine was sold to medical depôts and to native states was reduced during the year, the financial results continued to be satisfactory, the total receipts exceeding the total expenditure by Rs. 58,467. Mr. Standen's administration of the department was, as usual, excellent.

Spanish Olive Oil.

U.S. Consul Bartleman, of Seville, transmits to the State Department a translation of a petition directed by the Chamber of Commerce of Cordova to the President of the Spanish Cabinet, urging the advisability of creating free ports in Spain to favour the trade in olive oils. The petition states: "It is a well-known fact that France and Italy supply the world's markets with fine olive oils, and, singularly enough, their exports to the South American republics are considerable, even in years like the last six, in which their crops showed such deficiencies in respect to both quality and quantity that they were obliged continually to purchase Spanish oils. These oils, which to-day are turned out as good as in France and Italy, are used by these countries for the purpose of mixing with either cottonseed, peanut, or sesame oils, which enter free of duty into the ports of Marseilles, Genoa, and Leghorn. Although this concoction of oils has been practised for many years, and has thrown Spain almost completely out of competition, the matter has assumed a still graver aspect in the past few years, and above all in the last; for if formerly hardly 10 per cent. to 15 per cent. of the olive oils furnished to America and Europe was supplied by Spain, her exports of fine oils have to-day fallen even below that figure, and may be expected to cease entirely before long. This must be all the more so since cottonseed oil, the cardinal constituent of the concoction in question, is being turned out in even greater quantities and more absolute perfection in the United States, and prices of this product, which formerly was offered in European ports at 80f. per 100 kilos., have dropped in the last eighteen months from 42f. to 45f. Moreover, the U.S. manufactures to-day a speciality in cottonseed oil called 'winter,' which, besides being very sparkling, golden in hue, and tasteless and odourless, does not congeal—a peculiarity which greatly encourages and aids concoctions. This quality of cottonseed oil is being quoted at 45f. per 100 kilos. in the above-named free-ports, while the prices of Spanish olive oils are 95f. f.o.b. Malaga or Seville, the finer grades being worth from 110f. to 125f. To top all difficulties the oil-crop in Spain this year has fallen very short. Spanish exportation will necessarily be *nil*. It must be remembered that the foreign consumer has become habituated to concocted oils, which he prefers to the pure olive oils, whose taste and odour, though more delicate, he does not relish. He prefers the grades which concoction has rendered imperceptible to both taste and odour, and at the same time attractive in appearance."

Pure Otto of Rose.

The London "Daily Mail" reports that a conference of all the otto-of-rose merchants and producers has been held at Philippopolis, Bulgaria, the chief object of the meeting being the devising of how best to prevent the adulteration. It was decided that the only course to take was to petition the Government to control the distillation, to put its stamp and seal on the pure article, and export it under the name of "Controlled Otto of Rose."

The Press Association's correspondent, writing from Philippopolis on July 6, states that during the first three days of the week a conference has been held of all the otto-of-rose merchants and producers. The questions discussed in this conference were of great interest, but the one most interesting to the general public was how best to prevent the adulteration of otto. It was decided that the only course to take was to petition the Government to control the distillation, to put its stamp and seal on the pure article, and export it under the name of "Controlled otto of roses." It was decided, however, that such control should be optional, only those producers who eared to have their distilleries under control to apply for it. The general opinion is that the Government would do well to adopt some such measure, if it wishes to save this industry from demoralisation.

Peruvian Sulphur.

Sulphur occurs in the departments of Arequipa, Cajamarca, and Piura, where large deposits exist. It is expected that large shipments will be made shortly from Bayovar, which lies south of Payta; but the Port of Bayovar, which is a new one, requires to be surveyed. A large amount of capital has been sunk in the enterprise.

The Imports of Sulphate of Copper at Brindisi declined from 1,245 tons in 1904 to 852 tons last year, while the imports at Gallipoli advanced from 89 tons to 180 tons.

The British Consul at Nice, in his annual report for 1905, says there are about sixty chemists' shops in that town, and not one of them under British management.

Bermuda Arrowroot.—During 1905 arrowroot valued at 850*l.* was exported from Bermuda to the United Kingdom, compared with 1,192*l.* in the previous year. There is only one arrowroot-factory in the island which is equipped with modern plant.

CORRESPONDENCE

TO CORRESPONDENTS.—Please write clearly and concisely on one side of the paper only. All communications should be accompanied by the names and addresses of the writers. Publication of letters does not imply our agreement with the arguments or approval of the statements therein. If queries are submitted, each should be written on a separate piece of paper. We do not reply to queries by post, and can only answer on subjects presumably of interest to our readers generally. Letters received after the early posts on Wednesday cannot as a rule be dealt with in the current week's issue.

BUSINESS INFORMATION.—We have very full records of the makers or agents for articles and products connected with the chemical and drug trades, and supply information respecting them by post to inquirers. Inquiries regarding any articles which cannot be traced in this manner are inserted under "Information Wanted."

The Pharmacy Bill.

SIR,—I am directed to say that the putting down of the clause referring to chemists and druggists and registered druggists and their assistants by Mr. Sloan on their behalf was premature. We are doing all we can to prevent the Bill being extended to Ireland, but we told Mr. Sloan that, in the event of the Bill being forced upon us, there were some amendments we desired to have embodied after the second reading, but these amendments were not drafted and put in order. Mr. Sloan, I understand, put the motion on the papers more as a notice. We are writing him regarding this. Yours truly,

W. J. RANKIN, Hon. Secretary,
North of Ireland Chemists' and Druggists' Association.

Touching Turpentine.

SIR,—Some time since I ventured on the statement that not half the turpentine sold, or rather half the stuff sold as turpentine, was the American spirits of turpentine. You quoted import figures which showed that the proportion of Russian or French turpentine which comes into the country is very small, and that the bulk imported is American. I suggest that it would be interesting for you to investigate just now the genesis of the substance sold as turpentine, because the amount of turpentine substitutes produced appears to be very great, and the amount of turpentine imported is but a fraction of that sold. It will be distinctly awkward for some people if the attention of the food and drugs inspectors should become directed towards the turpentine of the shops. Yours truly,

July 22. J. C. MCWALTER.

Eureka!

SIR,—In advertisements which appeared in the daily newspapers some time ago the following occurred :

What the Pharmaceutical Council wants is to mutilate our trade-name as follows:
BOOTS CASH ——— ?
What we want is to use our present trade-name as below:
BOOTS CASH CHEMISTS.

The company have now filled in the double-blanked line by advertising in Brighton their *café* in such a way that it reads "Boots Cash Café." Here is a solution of the difficulty backed up by "China and Indian Teas, Afternoon Tea Savouries, Dainty Cakes a Speciality, Strawberry Teas, and Ice Cream (guaranteed Pure)." The alliteration "Boots Cash Café" should be just as good for their purpose as the title which has moved the House of Lords to rise up in anger and defeat the Government on the fascia business.

Yours truly,
BRIGHTONIAN. (24/96.)

P.A.T.A. and C.D.A. Balance Sheets.

SIR,—As an old subscriber I should like to ask Mr. Jones and Mr. Johnston to explain why so many items are duplicated under the heading of "Payments." For instance—Defalcations by absconding clerk, 25*l.* 19*s.* 7*d.* This item appears in both the P.A.T.A. and the C.D.A. accounts. Are members left to infer that the total amount of defalcations is 51*l.* 19*s.* 2*d.* and that half is charged against each association? If so, an explanatory note to that effect should have been inserted in the report. If, on the other hand, the total amount is only 25*l.* 19*s.* 7*d.*, then it should not be charged up twice. The same remarks apply to the following items: Refreshments, travelling, furniture, and "Year-book." Yours truly,

ZEMO. (105/44.)

[We have explained to "Zemo" that the expenses of the Associations are charged to the two *pro rata*, where the expenses are incurred mutually.—EDITOR.]

Co-operative Buying.

SIR,—It has often occurred to me that a little co-operation among a few chemists (say, a dozen) in a district might be the means of effecting a considerable saving in the purchase of original bottles and packages (often not less than 1 lb.) of high-priced specialities which are so frequently ordered by medical men in quantities of an ounce or even less, and which may not be wanted again for months, perhaps years, by the same chemist. The plan that suggests itself to me, is for several chemists to make out a list of the packages which they have in stock, and exchange them, say at intervals of three months. I am sure this would be to our mutual benefit, and effect a great saving of time, by being able to send direct to the neighbour upon whose list the required article was found. Yours faithfully,

HY. DOUTHWAITE.

Chepstow Corner, Westbourne Grove, W.

Proposed Chemists' Union.

SIR,—With reference to Mr. Hugh Lloyd's application for qualified chemists to join a union of chemists, I beg to say I shall be most willing to do all I can to assist. I feel sure that he has discovered a real need for this union, and that nothing but good can come from it. It need not necessarily be an offensive union, but should rather be defensive in its nature, and if it does nothing better than bind up into a compact whole a trade which at present is a mere mass of 16,000 scattered fragments, chaotic in its movements, and each acting almost antagonistically to the other (at any rate, in many cases), it will indeed have done something towards the advantage of the trade. If such a union could be got to work in such a way that the chemist-traders in each town could work together in the matter of prices, and in gathering together at intervals to discuss trade topics and to promulgate schemes to fight unwarrantable unqualified opposition, then indeed it would have more than justified its creation. Nothing but good can come of union; if anyone can tell me of any possible harm which can come from it, I will be glad to hear of it. I think Mr. Lloyd, if anything, is too modest in his demand for 1,000 members; he should ask for 16,000, and he ought to get them. The preliminary fee of 2*s.* 6*d.* (as an experiment) would not be a terrible plunge even for the most careful member of the trade. The project might, at any rate, be fully discussed by the large number of chemists' associations throughout the country. I trust you will open your columns for a free discussion of this matter. Yours is an important organ of the trade, and I for one very respectfully beg to claim your valued space for the purpose, and I trust you will give Mr. Lloyd the opportunity of promulgating his doctrine of the union through your columns. Yours faithfully,

S. C. MCKEE.

SIR,—It is obvious that such a union, if properly supported, would command the situation entirely, and surely there are reforms enough needed to warrant its formation. Policy in detail is a matter more for later decision, but I think one of defence, with the power to take the offensive if need arises, should be our goal. But I hope that we may hear more of this, and I trust that Mr. Lloyd may have the gratification of receiving a steady flow of names for his register, so that we can get to work in earnest. The drug-store proprietors have their association; why not their servants? Yours, etc.,

EBORACUM. (108/7.)

Ticket-writing and Window-dressing.

SIR,—There is a distinct opening for classes to teach ticket-writing and window-dressing. Who will start one? I would join at once. In America smart young business-men make it a point to know how to write a thoroughly good window-ticket, and how to dress a window effectively; in

fact, there are proper teachers there. If this is not practicable here, who will let us have a good article on the matter in the *C. & D.*, describing kind of pens required, also ink, and a general idea of the way how to go about it? I would also like to see window-dressing competitions started, the retail chemist or his assistants to participate, a photo to be sent, and a prize awarded to the best. I wish chemists would make a point of making their own window-displays with their own goods. This need not necessarily push out displays occasionally of good-protected, well-advertised proprietaries belonging to others. For these latter it should be a *sine qua non* that at least 25 per cent. profit is secured on the articles and a good rent for the window, but the chemist's own proprietary should stand first. Will you allow others to back me up in this scheme in your spirited journal?

Yours truly,

Acton, W. S. C. McKee.

The Irish Qualification.

Sir,—I venture to draw attention to the manner in which the Irish qualification is depreciated by some Colonial firms. I enclose a memorandum received from Messrs. Lennon, Ltd., of Cape Town and London. I should like to know why a preference should attach to the Minor qualification. I am quite satisfied that the Irish examination is a more searching one than that of the British Society, and I know that more than one Minor man has been "fired out" when he essayed by means of our examination to attach the letters "Ph.C." to his name. Moreover, the Irish qualification is of full legal standing in the South African Colonies.

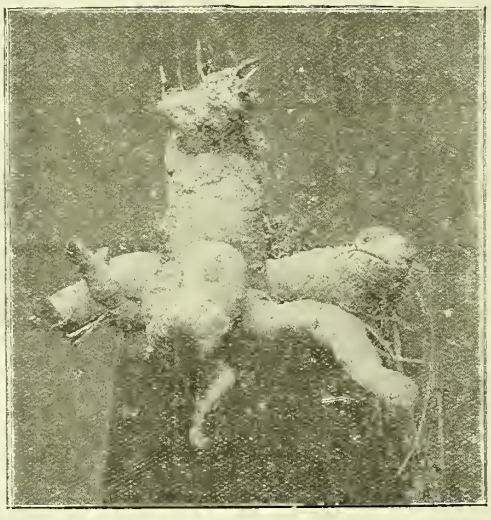
Yours truly,

Rathdowney. James T. Doyle, Ph.C.

[The letter which Mr. Doyle enclosed contains the sentence: "The fact is, we always give preference to gentlemen possessing the qualification of the British Pharmaceutical Society."]

Strange Root-forms.

Sir,—I am sending you a photograph of two remarkable specimens of horseradish-root, and I think, perhaps, they



might be of sufficient interest to insert in your valuable paper. The larger weighs 10½ lb. and the smaller 5¾ lb., and the forms assumed are certainly grotesque.

Yours faithfully,

Brentwood. H. F. Hodgson.

Legal Queries.

See the "C. & D. Diary, 1906," for much legal information about all trade matters. In any circumstance not covered by the articles therein, state the case explicitly with all particulars and submit to the Editor.

Southern Cross (101/27) ordered some folding cases with printed matter, requesting the firm to whom the order was given to submit proofs of the printed cases. Proofs on paper were sent, but "Southern Cross" would not pass the proof until he had had a printed case, which he could not obtain, although he wrote three times. The order was thereupon cancelled, and placed elsewhere at an increased price. Some six weeks afterwards the first firm wrote to know when proof of the case which they said had been sent would be returned, and eventually sent in a charge for work done. "Southern Cross" asks us as to the extent of his liability. [The right to cancel a contract on account of delay generally turns on the question whether the delay has been so unreasonable as to amount to repudiation of the contract, and a refusal to perform it. In this case, if the manufacturer's statement is correct that they sent complete proof at the early date mentioned it would tend to negative such a suggestion. They would, of course, be bound to prove the fact that they did actually send the proof. On the other hand, if this was not the case, "Southern Cross" would not only be entitled to refuse to pay the manufacturer's claim, but also to recover the extra price that he had to pay, by way of damages.]

E. W. (73/63).—You may legally call your preparation, say "E. W.'s Pain-killer," without infringing anyone's rights, so long as your preparation is distinctive and not a colourable imitation.

Claim (99/69).—There is no established practice in the drug-trade as to the length of time an employer should pay an assistant who is absent from work through illness. The legal obligation (if any) of the employer can be limited by giving a month's notice. If the assistant can prove that the illness was contracted in the course of his employment he is entitled to his wages during the illness.

Hemisto (96/38).—A veterinary prescription for a medicine is a medical prescription within the meaning of the Irish Pharmacy Acts.

Ajax (102/61).—If you label an article which is not supplied by the Chesebrough Co. "Petroleum jelly, formerly known as vaseline," you may get into trouble. "Vaseline" is a trade-mark which has always been the company's property, and only one petroleum jelly is, or has been, known as vaseline—*i.e.*, Chesebrough's.

Recent Wills.

Done.—By his will, dated November 24, 1905, Mr. Henry Thomas Done, chemist and druggist, of 297 Coventry Road, Small Heath, Birmingham, formerly with Messrs. Reynolds & Branson, chemists, of Leeds, who died on February 15 last, aged fifty-nine years, left estate of the gross value of 3,357*l.* 10*s.* 1*d.*, the whole of which he left to his daughter, Mrs. Florence Kate Perks (widow of Mr. Alfred Perks), of Stone Pits, Inkberrow, near Worcester, who is the sole executrix.

Morse.—Probate of the will of Mr. Charles Henry Stafford Morse, of Tor View, Totnes, Devon, pharmaceutical chemist, in business there for nearly twenty-five years, who died on May 20 last, aged fifty years, leaving estate of the gross value of 2,255*l.* 2*s.*, with net personalty 2,042*l.* 1*s.* 4*d.*, has been granted to his widow, Mrs. Eliza Morse, of Tor View, and his brother, Mr. Herbert Morse, of 106 Durham Road, Manor Park, Essex, accountant.

Tennant.—The will has just been proved of Sir Charles Tennant, Bart., who died on June 4 last, the value of the estate being 3,151,974*l.* gross, with net personalty 2,955,443*l.* This is exclusive of settled property. All his interest and his capital in the firm of Messrs. Charles Tennant, Sons & Co., of Mincing Lane, E.C., he left to his son, Sir Edward P. Tennant, Bart., absolutely. He left his share in the Liverpool and Manchester business equally between his three sons, Edward Priaulx, Francis John, and Harold.

Wickham.—Mr. William Wickham, of 5 Wickham Road, Brockley, S.E., for many years in business as a chemist and druggist at High Street, Deptford, who died on April 27 last, aged eighty-one years, left estate of the gross value of 6,854*l.* 8*s.* 9*d.*, of which the net personalty has been sworn at 6,794*l.* 18*s.* 2*d.* Probate of his will, dated February 6, 1903, with a codicil of February 25, 1903, has been granted to his widow, Mrs. Jessie Wickham, of 5 Wickham Road, Brockley, and Mr. Alfred Tolhurst, of Northfleet House, Northfleet. The testator bequeathed 1,500*l.* to his son, William Charles, 100*l.* to his widow, Mrs. Wickham, and 20*l.* to Alfred Tolhurst. He left his plate and crayon drawings to his wife for life, with remainder to his son, William Charles, and he left his other household effect to his wife absolutely. His residence and the residue of his estate he left to his wife for life, and on her decease left 50*l.* each to his nieces, Ann Bowles, Sarah Bowles, and Mary Bowles, and the residue of his estate to his son absolutely or his issue, and, failing issue, to his said three nieces.